

**The relationship between hardiness and career adaptability of students studying
at Technical and Vocational Education and Training (TVET) Colleges in Gauteng.**

by

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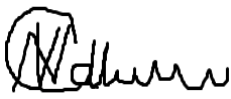
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APRIL 2017

DECLARATION

Student Number: 30769027

I declare that **'The relationship between hardiness and career adaptability of students studying at Technical and Vocational Education and Training (TVET) Colleges in Gauteng'**, is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.



Velly Ndlovu

APRIL 2017

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ABSTRACT/SUMMARY

The relationship between hardiness and career adaptability of students studying at Technical and Vocational Education and Training (TVET) Colleges in Gauteng.

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The research focused on the relationship between hardiness and career adaptability of students studying at Technical and Vocational Education and Training (TVET) Colleges in Gauteng. A quantitative survey was conducted on a convenience sample of ($N = 198$) of African (92.9%), female (57.6%), single (96.0%), aged 21 years and younger (93.9%) students enrolled at Gauteng TVET colleges for N1 – N6 Engineering Studies (32.8%). A correlational analysis indicated differences between the variables of hardiness and career adaptability and the study reveals that overall hardiness was significantly related to overall career adaptability. A stepwise regression analysis indicated that gender and the hardiness attributes (commitment, control and challenge) predicted career adaptability. The test for significant mean differences indicated that age, gender and field of study differ significantly between the variables of hardiness and career adaptability. Limitations for the study are outlined. Furthermore, recommendations are suggested for use by human resource regarding career development practices for TVET college students. The study concludes with an evaluation of its contribution.

KEY TERMS

Career, career development, hardiness, career resilience, career adaptability, TVET College, 21st century career.

TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENTS.....	iii
ABSTRACT/SUMMARY.....	iv
KEY TERMS	v
TABLE OF CONTENTS	vi
LIST OF FIGURES.....	xii
LIST OF TABLES.....	xiii
CHAPTER 1: SCIENTIFIC OVERVIEW OF THE RESEARCH	1
1.1 BACKGROUND AND RATIONALE FOR THE RESEARCH.....	1
1.2 PROBLEM STATEMENT.....	11
1.2.1 Research questions with regard to the literature review	12
1.2.2 Research questions with regard to the empirical study.....	12
1.3 AIMS OF THE RESEARCH	12
1.3.1 General aim of the research	13
1.3.2 Specific aim of the research.....	13
1.3.2.1 <i>Literature review</i>	13
1.3.2.2 <i>Empirical study</i>	13
1.4 POTENTIAL VALUE ADDED.....	14
1.4.1 Potential contribution on a theoretical level.....	15
1.4.2 Potential contribution on an empirical level.....	15
1.4.3 Potential contribution on a practical level.....	15
1.5 THE RESEARCH MODEL	16
1.6 PARADIGM PERSPECTIVE OF THE RESEARCH.....	17
1.6.1 The intellectual climate	17
1.6.1.1 <i>The literature review</i>	17
1.6.1.2 <i>Empirical research</i>	18
1.6.2 The market of intellectual resources	19
1.6.2.1 <i>Meta-theoretical statements</i>	19
1.6.2.2 <i>Theoretical models</i>	20

1.6.2.3	<i>Conceptual descriptions</i>	20
1.6.2.4	<i>Central hypothesis</i>	25
1.6.2.5	<i>Theoretical assumptions</i>	25
1.6.2.6	<i>Methodological assumptions</i>	25
a)	Sociological dimension	25
b)	Ontological dimension.....	26
c)	Teleological dimension	26
d)	Epistemological dimension	26
e)	Methodological dimension	27
1.7	RESEARCH DESIGN	27
1.7.1	Exploratory research.....	28
1.7.2	Descriptive research	28
1.7.3	Explanatory research	28
1.7.4	Validity	29
1.7.4.1	<i>Validity with regard to the literature review</i>	30
1.7.4.2	<i>Validity with regard to the empirical study</i>	30
1.7.5	Reliability	30
1.7.6	The unit of research	31
1.7.7	The research variables	31
1.7.8	Delimitations	32
1.8	RESEARCH METHODOLOGY.....	33
1.8.1	Phase 1: Literature review	35
1.8.2	Phase 2: The Empirical Study.....	35
1.9	CHAPTER LAYOUT	37
1.10	CHAPTER SUMMARY	37
CHAPTER 2	META-THEORETICAL CONTEXT OF THE STUDY: CAREER DEVELOPMENT AND STUDENTS IN THE TVET COLLEGES IN THE 21 ST CENTURY	39
2.1	STUDENTS IN TVET COLLEGES	39
2.2	CAREER DEVELOPMENT IN THE 21 ST CENTURY.....	45
2.2.1	Career evolution	47

2.2.2	The boundaryless career	50
2.2.3	TVET students as career agents	55
2.3	CHAPTER SUMMARY	56
CHAPTER 3: HARDINESS AND CAREER ADAPTABILITY		58
3.1	HARDINESS	58
3.1.1	Conceptualisation of hardiness	58
3.1.2	Theoretical model of hardiness	59
3.1.2.1	<i>The three C's of hardiness</i>	60
a)	Commitment	60
b)	Control	60
c)	Challenge	61
3.1.3	Variables influencing hardiness development	63
3.1.3.1	<i>Age</i>	63
3.1.3.2	<i>Gender</i>	63
3.1.3.3	<i>Race</i>	64
3.1.3.4	<i>Marital status</i>	64
3.2	CAREER ADAPTABILITY	66
3.2.1	Conceptualisation of career adaptability	66
a)	Concern	67
b)	Control	67
c)	Curiosity	67
d)	Confidence	67
3.2.2	Theoretical model of career adaptability	70
3.2.2.1	<i>Savickas career construction theory</i>	70
3.2.3	Variables influencing career adaptability development	74
3.2.3.1	<i>Age</i>	75
3.2.3.2	<i>Gender</i>	76
3.2.3.3	<i>Race</i>	77
3.2.3.4	<i>Marital status</i>	77

3.3	INTEGRATION: THE THEORETICAL RELATIONSHIP BETWEEN HARDINESS AND CAREER ADAPTABILITY	79
3.4	IMPLICATIONS FOR CAREER SUCCESS	83
3.5	CHAPTER SUMMARY	84
CHAPTER 4: EMPIRICAL RESEARCH		86
4.1	DETERMINATION AND DESCRIPTION OF THE SAMPLE	86
4.1.1	Composition of age groups in the sample	87
4.1.2	Composition of gender groups in the sample	88
4.1.3	Composition of race groups in the sample	90
4.1.4	Composition of marital status groups in the sample	91
4.1.5	Composition of field of study in the sample	92
4.1.6	Summary of sample demographic profile	94
4.2	CHOOSING AND MOTIVATING THE PSYCHOMETRIC BATTERY	96
4.2.1	The biographical questionnaire	96
4.2.2	The Personal Views Survey (PVS III-R)	96
4.2.3	The Career Adapt-Abilities Inventory (CAAI)	98
4.3	DATA COLLECTION	101
4.4	ETHICAL CONSIDERATIONS	101
4.5	FORMULATION OF RESEARCH HYPOTHESES	102
4.6	DATA ANALYSIS	105
4.6.1	Stage 1: Descriptive statistical analysis	106
4.6.2	Stage 2: Correlational analysis	106
4.6.3	Stage 3: Inferential and multivariate statistical analysis	106
4.6.3.1	<i>Stepwise hierarchical regression analysis</i>	107
4.6.3.2	<i>Test for significant mean differences</i>	107
4.6.4	Level of significance	107
4.7	CHAPTER SUMMARY	108
CHAPTER 5: RESEARCH RESULTS		110
5.1	DESCRIPTIVE STATISTICS	110
5.1.1	Reporting of internal consistency reliability	110
5.1.1.1	<i>Reporting of scale reliability: Personal Views Survey (PVS III-R)</i>	111

5.1.1.2	<i>Reporting of scale reliability: Career Adapt-Abilities Inventory (CAAI)...</i>	112
5.1.2	Reporting of means, standard deviations, skewness and kurtosis.....	113
5.1.2.1	<i>Personal Views Survey (PVS III-R).....</i>	114
5.1.2.2	<i>Career Adapt-Abilities Inventory (CAAI).....</i>	114
5.2	CORRELATIONS	115
5.2.1	Reporting on bivariate correlations between PVS III-R and CAAI.....	116
5.3	INFERENTIAL STATISTICS.....	119
5.3.1	Stepwise hierarchical regression analysis	119
5.3.2	Test for significant mean differences	127
5.4	SYNTHESIS, INTERPRETATION AND DISCUSSION.....	142
5.4.1	Biographical profile of sample.....	142
5.4.2	Sample profile: hardiness and career adaptability	143
5.4.3	Research aim 1.....	142
5.4.3.1	<i>Interpretation of correlations between PVS III-R and CAAI.....</i>	143
5.4.4	Research aim 2.....	145
5.4.4.1	<i>Interpretation of stepwise hierarchical regression analysis (demographical variables, hardiness and career adaptability).....</i>	145
5.4.5	Research aim 3.....	146
6.4.5.1	<i>Interpretation of test for mean differences</i>	146
5.5	SUMMARY OF DECISIONS REGARDING THE RESEARCH HYPOTHESES	148
5.6	CHAPTER SUMMARY	150
	CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS.....	151
6.1	CONCLUSIONS	151
6.1.1	Conclusions relating to the literature review	151
6.1.1.1	<i>Research aim 1: To conceptualise the career development and career support practices of students in the 21st century.....</i>	151

6.1.1.2	<i>Research aim 2: To conceptualise and explain the constructs; hardiness and career adaptability from a theoretical perspective models in the literature.....</i>	154
6.1.1.3	<i>Research aim 3: To identify and explain the relationship between hardiness and career adaptability in terms of the theoretical models of these constructs.</i>	156
6.1.1.4	<i>Research aim 4: To conceptualise the effect of the demographical variables (age, gender, race, marital status and field of study) on the relationship between hardiness and career adaptability.....</i>	156
6.1.2	Conclusions relating to the empirical study.....	159
6.1.3	Conclusion relating to central hypothesis.....	163
6.1.4	Conclusions relating to contributions to the field of human resource management.....	164
6.2	LIMITATIONS	164
6.2.1	Limitations of the literature review	165
6.2.2	Limitations of the empirical study	165
6.3	RECOMMENDATIONS.....	166
6.3.1	Recommendations for the field of human resource management.....	166
6.3.2	Recommendations for further research.....	167
6.4	EVALUATION OF THE STUDY	168
6.4.1	At a theoretical level	168
6.4.2	At an empirical level.....	168
6.4.3	At a practical level.....	169
6.5	CHAPTER SUMMARY	170
	BIBLIOGRAPHY	171

LIST OF FIGURES

<i>Figure 1.1</i>	The Hypothesised Moderating Role of Hardiness Behaviours on University Academic Performance	5
<i>Figure 1.2</i>	Savickas's Career Adaptability Model	8
<i>Figure 1.3</i>	Relationship between Variables.....	322
<i>Figure 1.4</i>	Flow Diagram of the Research Method.....	344
<i>Figure 3.1</i>	The Hardiness Model.....	63
<i>Figure 3.2</i>	The Four Dimensions of Career Adaptability	69
<i>Figure 4.1</i>	Sample Distributions by Age.....	88
<i>Figure 4.2</i>	Sample Distribution by Gender	89
<i>Figure 4.3</i>	Sample Distribution by Race.....	91
<i>Figure 4.4</i>	Sample Distribution by Marital Status	92
<i>Figure 4.5</i>	Sample Distribution by Field of Study	94
<i>Figure 4.6</i>	Statistical Analysis Process	107

LIST OF TABLES

Table 1.1	<i>Summary of the Core Constructs, Theoretical Models and Measuring Instruments of relevance to the study</i>	233
Table 2.1	<i>Programme Performance: Strategic Objectives, Performance Indicators, Planned Targets and Actual Achievements</i>	422
Table 2.2	<i>College Student Profile, 2007-2010 by 2010</i>	444
Table 2.3	<i>Key Drivers for Change in the 21st Century</i>	49
Table 2.4	<i>The Characteristics of a Protean Career</i>	544
Table 3.1	<i>Summary of Demographical Variables Influencing Hardiness</i>	65
Table 3.2	<i>Career Adaptability Dimensions</i>	744
Table 3.3	<i>Summary of Person-Centred Demographical Variables that may Influence Career Adaptability.</i>	78
Table 3.4	<i>Integration and Theoretical Comparison of Hardiness and Career Adaptability</i>	811
Table 4.1	<i>Age Distribution of Sample</i>	87
Table 4.2	<i>Gender Distribution of Sample</i>	89
Table 4.3	<i>Race Distribution of Sample</i>	90
Table 4.4	<i>Marital Status Distribution of Sample</i>	91
Table 4.5	<i>Field of Study Distribution of Sample</i>	93
Table 4.6	<i>Summary of Frequency Distribution of the Sample' Biographical Profile</i> .	95
Table 4.7	<i>Summary of the Empirical Research Hypotheses</i>	103
Table 4.8	<i>Different Levels of Statistical Significance</i>	108
Table 5.1	<i>Internal Consistency Reliability of PVS III-R</i>	112
Table 5.2:	<i>Internal Consistency Reliability of CAAI</i>	112
Table 5.3:	<i>Means, Standard Deviations, Skewness and Kurtosis (PVS III-R)</i>	114
Table 5.4:	<i>Means, Standard Deviations, Skewness and Kurtosis: CAAI</i>	115
Table 5.5:	<i>Bivariate Correlations between PVS III-R and CAAI</i>	117
Table 5.6:	<i>Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Concern as Dependent Variable</i>	120

Table 5.7:	<i>Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Control as Dependent Variable.....</i>	122
Table 5.8:	<i>Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Curiosity as Dependent Variable.....</i>	124
Table 5.9:	<i>Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Confidence as Dependent Variable.....</i>	126
Table 5.10:	<i>Mann-Whitney Test Scores for Age (N = 198)</i>	128
Table 5.11:	<i>Mann-Whitney test Scores for Gender (N = 198).....</i>	130
Table 5.12:	<i>Kruskal-Wallis Test Scores for Race (N = 198).....</i>	132
Table 5.13:	<i>Mann-Whitney Test Scores for Marital Status (N = 198).....</i>	135
Table 5.14:	<i>Kruskal-Wallis Test Scores for Field of Study (N = 198).....</i>	137
Table 5.15:	<i>Summary of Means of Measuring Instruments</i>	143
Table 5.16:	<i>Summary of Decisions Regarding the Research Hypotheses</i>	149

CHAPTER 1: SCIENTIFIC OVERVIEW OF THE RESEARCH

The research focuses on the relationship between hardiness and career adaptability of students studying at Technical and Vocational Education and Training (TVET) Colleges in Gauteng. The aim of this chapter is to provide a background to and rationale for the study and to formulate the research statement and research questions. On the basis of the aforementioned, the aims of the research are then stated. The paradigm perspectives, which guide the research, are discussed, while the research design and method with their different steps, which give structure to the research process, are formulated. The chapter concludes with an outline of the chapter's layout and a summary.

1.1 BACKGROUND AND RATIONALE FOR THE RESEARCH

The study will focus on the career development of students enrolled with TVET Colleges in South Africa, within Gauteng. More specifically, the research seeks to investigate the existence of a relationship between hardiness and career adaptability of students in TVET Colleges. Moreover, demographical variables; such as age, gender, race, marital status and field of study are investigated to see if they have any influence on the hardiness and career adaptability of TVET Colleges students within Gauteng.

The Technical and Vocational Education and Training (TVET) Colleges were previously known as Further Education Training (FET) Colleges and were declared TVET Colleges as a result of the Further Education and Training Colleges' (FETC) Amendment Act 1 of 2013 (Department of Higher Education and Training, 2013a; Department of Higher Education and Training, 2013c). According to the DHET (2013a; 2013c) TVET is the more generally accepted international description for this sector of post-school education and training. These developments serve to align the language of the sector with international practices. A TVET College refers to any college that provides further education and training on a full-time, part-time or distance basis and which is established or registered or provisionally registered as a public or private further education and training college (Department of Higher Education and Training, 2010). The courses offered at TVET Colleges are vocational or occupational by nature meaning that the student receives education and training with a view towards a specific range of jobs or employment possibilities. There are currently (50) fifty registered and accredited public TVET Colleges in South Africa which operate on approximately 300 campuses spread across the rural and urban areas of the country

(Department of Higher Education and Training, 2010; Powell, 2013). TVET Colleges are a prerogative of the Department of Higher Education (DHET). The FET college sector of 2010 comprised 332,580 headcount enrolments (Cosser, Kraak, & Winnaar, 2011)

Professional student support services are available at most public TVET Colleges. New students may be required to complete a competency assessment on enrolment. This assists the college to determine the most suitable learning and support programmes for the prospective students. In general, the student support is focused on both academic and the broader social and psychological needs of students. The Department of Higher Education and Training offers bursaries for National Certificate Vocational courses and Report 191 (NATED or 'N') courses at public TVET Colleges to students who meet the criteria. These bursaries are not loans and are administered by the National Student Financial Aid Service (NSFAS). Other bursaries are also available, which will vary from college to college.

In an effort to ensure that courses are responsive to the needs of commerce and industry, public colleges go to great lengths to secure linkages and partnerships with key role-players in commerce and industry and with the Sector Education and Training Authorities (SETA's). A number of colleges have a management division devoted to this aspect. Public TVET Colleges try as far as possible to facilitate job shadowing and practical workplace opportunities for top performing students. Many campuses also operate simulated enterprises to augment the need for practical exposure related to the course of study.

TVET colleges are constituted as part of the broader struggle to resolve the economic, political and social contradictions inherent in the tension between social redress and economic growth; and are situated at the crossroads between compulsory education, higher education and the world of work. TVET colleges are conceived as critical drivers for responding to the skill needs of the South African economy, and they were conceptualised to provide the intermediate to higher-level skills required for economic growth in order for the country to compete effectively in the global economy (Akoojee, 2009; Powell, 2013). According to the Human Resource Development Strategy for South Africa (HRM-SA) 2010-2030 and the National Skills Development Strategy (NSDS) III, TVET Colleges are one of the key role players in addressing the skills shortages that South Africa needs to grow the economy (Department of Higher Education and Training, 2008; Van Rooyen, 2011).

In his budget vote speech on 08 May 2013, the Minister of Higher Education, Blade Nzimande indicated that the number of students at TVET Colleges on the student financial aid increased from 61 700 in 2010 to 222 800 in 2013 (South African Government News Agency, 08 May 2013). The funding also increased from R318 million to R2 billion over the same period. Appropriately, the pass rate increased from 9% in 2009 to 45% in 2012. According to the SA News Agency (08 May 2013), Minister Blade Nzimande indicated that the growth in student funding had helped TVET Colleges' enrolment to increase by 90% between 2010 and 2012 – from 345 566 to 657 690 students. Vocational Education and Training is not just a backwater of the education system, populated by those who are unable to learn or teach successfully in more mainstream institutions and pathways. Rather, it is an integral part of our beings as learners, workers and humans (McGrath, 2012b).

When considering the above figures, it is clear that the performance of TVET Colleges can still be optimised. Therefore, it is important that the relationship between the constructs of hardiness and career adaptability be investigated in order to develop strategies that could assist TVET Colleges to develop students' hardiness and career adaptability.

According to Maree (2012), Mkhabela, (2004) and Pandor, (2005; 2008), close to 40% of students in South Africa fail their first year of study – especially those from disadvantaged backgrounds. Although there are many reasons that can be attributed to that, according to Maree, (2012) one of the reasons is that most learners, especially Blacks, receive little if not no career counselling at school and their choice of career is based on minimal information.

A career is defined as a lifelong sequence of employment-related experiences. It is significant learning and experiences that help to identify an individual's professional life, direction, competencies, and accomplishments through positions, jobs, roles and assignments (Schreuder & Coetzee, 2011). In today's global economy and information societies, individuals must construct their own careers (Öncel, 2014). Self-knowledge is a requirement for successful career planning (De Villiers, 2009). This involves the knowledge of one's interests, skills, values, strengths and weaknesses. An individual who knows himself/herself well can make much more rational decisions (Schreuder & Coetzee, 2011). The literature further reveals that hardiness influences career adaptability (Ferreira, 2012; Ferreira, Coetzee & Masenge, 2013; Savickas & Porfeli, 2012).

The concept of hardiness as explained by Kobasa (1979) is viewed as a personality characteristic thought to shape the way an individual thinks about the world and to provide motivation to do difficult things (Zhang, 2011). It is an individual's ability to adapt and resourcefully respond to the demands posed by pursuing a career in the current era of a more turbulent, uncertain, and ever-changing employment environment (Maree, 2013; Tolentino, Garcia, Lu, Restubog, Bordia, & Plewa, 2014; Zacher, 2014a). Hardiness denotes a collection of personality characteristics that functions as a flexible resource when a person experiences demanding life events. These characteristics include the personality attributes related to commitment, control and challenge (Ferreira & Coetzee, 2013; Kobasa, Maddi & Zola, 1985; Maddi & Khoshaba, 2005; Sonderstrom, Dolbier, Leiferman & Steinhardt, 2000).

A number of studies have been conducted on the concept of hardiness. Researchers have found that individuals with strong hardiness characteristics tend to engage themselves whole-heartedly in whatever they are doing (commitment), trust and perform as if they can influence the actions forming their lives (control) and believe change to be not only normal but also an incentive for development (challenge) (Azeem, 2010; Hystad, Eid, Laberg, Johnsen & Bartone, 2010; Kobasa *et al.*, 1985, Zacher, 2014a).

The hardiness behaviours or attitudes are illustrated below in Figure 1.1

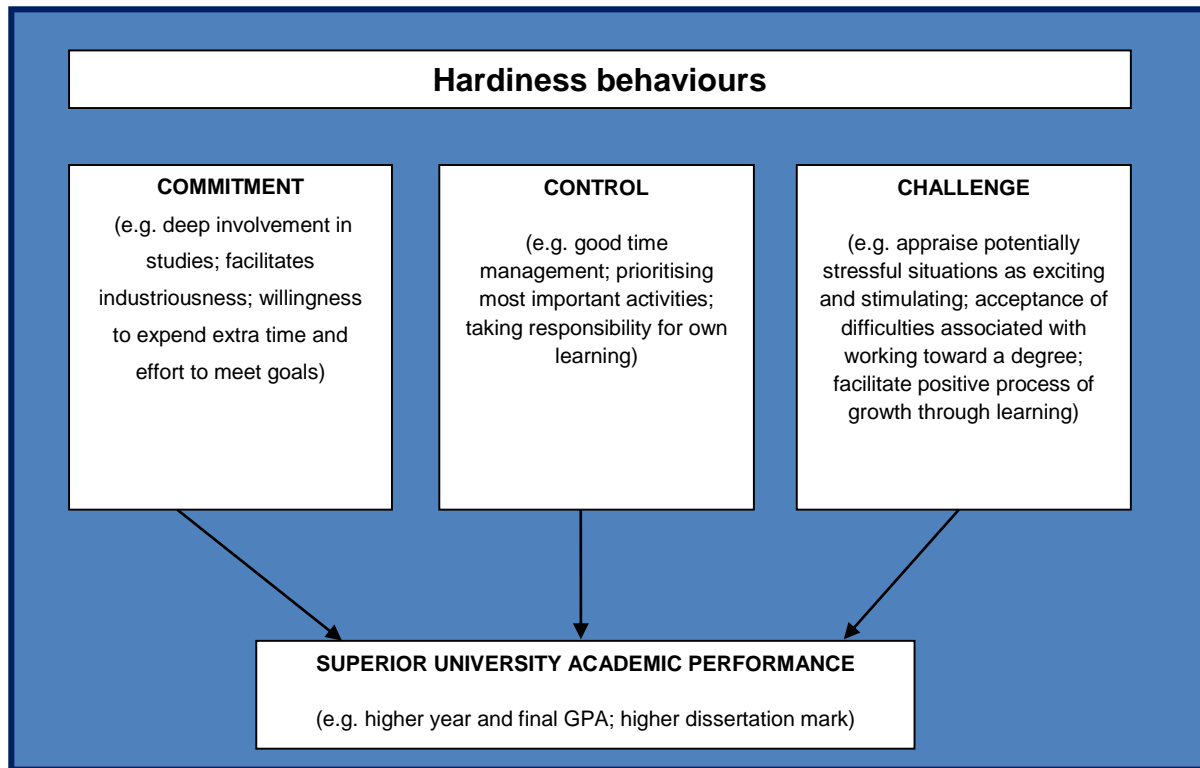


Figure 1.1: The Hypothesised Moderating Role of Hardiness Behaviours on University Academic Performance (Sheard & Golby, 2007, p.581).

The concept of hardiness evolved from existential psychology (Ferreira, 2012). Hardiness is viewed in terms of humans in search of authenticity by creating personal meaning through self-reflection, decision making, and actions that promote growth (Kobasa, 1979; Maddi & Kobasa, 1984). Kobasa (1979) conceptualised hardiness in terms of three personality traits, namely, control versus powerlessness, commitment versus alienation, and challenge versus threat. Control relates to individuals' beliefs about their ability to influence or manage life events and a sense of having personal control over one's experiences (Sheppard & Kashani, 1991).

Hardy control enhances the motivation to engage in effortful coping because it predisposes the individual to view stressors as changeable and manageable. The opposite of control is powerlessness (Ferreira, 2012; Kobasa, 1982; Maddi, 2002; Maddi & Kobasa, 1984). Commitment refers to a sense of dedication to oneself and one's work, resulting in the active and purposeful engagement in daily living. Individuals with high levels of hardy commitment involve themselves fully and successfully in a number of life situations, including work, family, interpersonal relationships, and social institutions (Sheppard & Kashani, 1991). The opposite of commitment is alienation (Kobasa, 1987).

Challenge represents people's perception of change and the belief that change should be treated as an opportunity for growth rather than as a threat (Sheppard & Kashani, 1991). The opposite of challenge is threat. Hardy challenge generates a zest for facing up to (or even seeking out) difficult experiences because these are seen as opportunities for personal growth rather than as potential threats to security (Ferreira, 2012; Maddi *et al.*, 2002). The three qualities of hardiness are seen as a combination of cognitive and affective orientations that constitute existential courage and motivation and an adaptive readiness reflected in a learned, growth-oriented personality style (Sheard & Golby, 2007).

Hardiness facilitates turning stresses to advantage, growing in such enhanced performance criteria as creativity, wisdom and fulfilment, and maintaining or enhancing physical and mental health (Maddi, 2006). If hardy attitudes are strong, individuals will show an action pattern of coping with stressful circumstances (e.g. examinations, meeting course work deadlines, completing a final-year research project) by facing them, and striving to turn them from potential disasters into opportunities for self (Khoshaba & Maddi, 1999). High levels of hardiness promote authentic living; rather than looking for ways to avoid stressful events, individuals draw strength from difficulties previously faced and overcome them successfully (Carr, Kelley, Keaton, & Albrecht, 2011). The three qualities of hardiness promote the use of psychosocial resources so as to facilitate transformational coping which involves changing stressful life events by viewing them optimistically (Ferreira, 2012; Harry, 2014; Kobasa, 1979; Maddi & Kobasa, 1984).

Therefore, individuals with high level of hardiness believe in the certainty, significance and interest value of who they are and what they are doing, therefore, they tend to involve themselves fully in a number of life situations, including work, family, interpersonal relationships and social institutions (Ferreira, 2013, Tolentino, Garcia, Lu, Restubog, Bordia, & Plewa, 2014; Zacher, 2014a). The hardy control enhances an individual's motivation to engage in effortful coping because he/she regards stressors as changeable (Maddi, 2002). The hardy challenge generates a zest to face difficult experiences because they are viewed as opportunities for personal growth rather than potential threats to security (Maddi, Khoshaba, Persico, Lu, Harvey, & Bleecker, 2002).

As the general aim of this research study is to investigate the existence of a relationship between hardiness and career adaptability of students in Technical and Vocational Education and Training (TVET) Colleges, the concept of career adaptability will be discussed below.

The concept of adaptability was initially explained by Super and Knasel (1981) as a vital construct in an individual's career development process and has since been recommended as a key competency in career success (Ferreira, 2012). Savickas (1997) introduced adaptability as a substitute for Super's (1955) idea of career maturity and sees it as an individual's ability to steer the career decision-making process and the working world. The concept of adaptability also reflects the ability to handle new challenging career contexts constructively (Hirschi, 2012). Career adaptability refers to the self-regulatory psychosocial resources individuals need to successfully manage current and anticipated career transitions and adjustments (Savickas, 2013).

Career adaptability represents four psychosocial resources of individuals for managing specific developmental tasks associated with their career development: career concern (the capacity to be aware of and positively oriented to, and plan for a vocational future), career control (the capacity to take personal responsibility for one's career and work experiences, and have feelings of self-governing, persistence, and decisiveness concerning a vocational future), career curiosity (a tendency to explore one's environment and through information-seeking and risk-taking, gain new knowledge and competencies) and career confidence (the tendency to feel self-efficacious concerning the ability to master career-related challenges and successfully solve problems) (De

Guzman & Choi, 2013; Johnston, Luciano, Maggiori, Ruch, & Rossier, 2013; Maree, 2013; Savickas & Porfeli, 2012; Zacher, 2014a).

The four dimensions of career adaptability (career planning, decision making, exploration and confidence) are illustrated below in Figure 1.2.

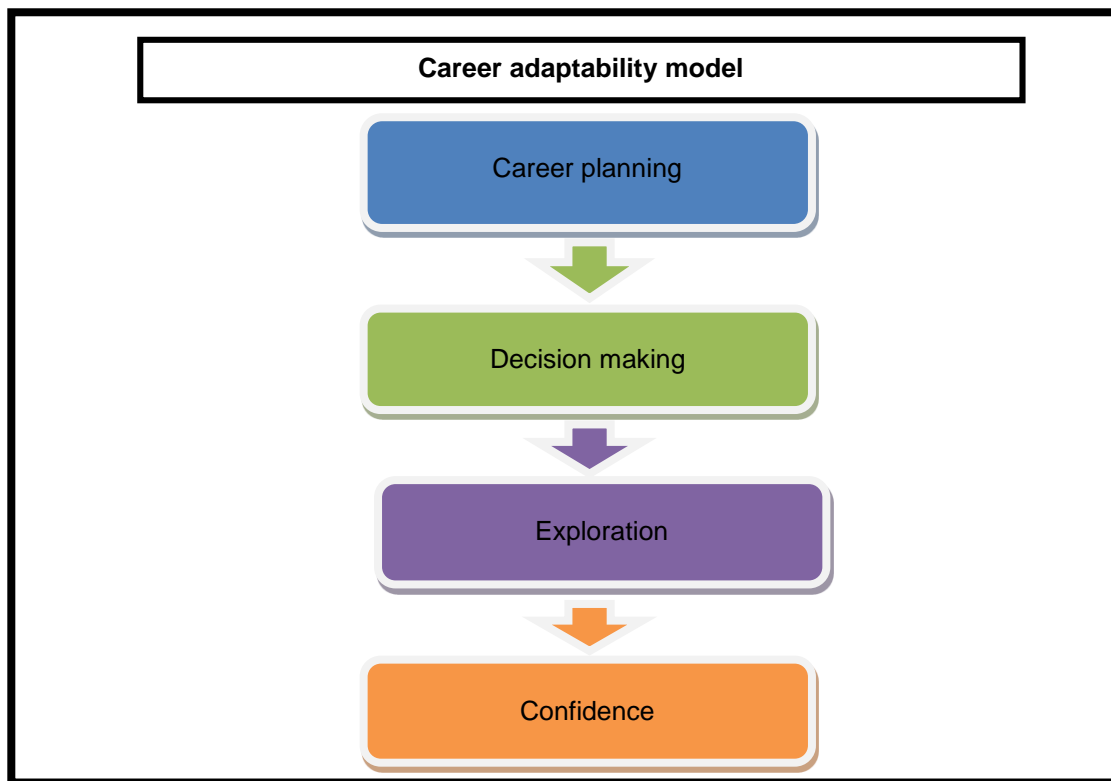


Figure 1.2: Savickas's Career Adaptability Model (Savickas, 1997, p.255)

Career planning reflects a future career orientation and plan-fullness, a sense that is important to prepare for tomorrow. Planning encourages an individual to outline their future career development and to participate in planning activities, i.e. constructing a career development plan. Planning is not a once-in-a-lifetime activity but is rather continuous and is even more crucial during the process of career transition following a job loss (Koen, Klehe, Van Vienn, Zikic & Nauta *et al.*, 2010).

Decision making in a career reflects the level of certainty with which an individual knows what career he or she would like to pursue (Creed, Fallon & Hood, 2009). Even when confronted with a restricted number of career choices, being decisive can make these options become personally significant (Koen *et al.*, 2010). For an individual to be decisive about a possible career, sufficient information about career alternatives is vital in order to plan the achievable outcomes of different career choices (Pitz & Harren, 1980).

Career exploration entails an investigation of career options in order to learn about the nature of work that one would want to do (Savickas, 2005). It means that one should be open-minded, broad and explorative when gathering information about different careers. Career exploration shares main features with an exploratory job search strategy. Therefore, the use of an exploratory job search strategy is an outcome of someone's readiness to broadly explore possible careers (Koen *et al.*, 2010).

Career confidence shows an individual's feeling of self-efficacy or the perceived capability to successfully execute the required activities to achieve one's career goals (Hirschi, 2009; Savickas, 2005). Several studies indicate that self-efficacy is critical in the job search process, increasing an individual's job search intensity which in turn increases the chances of one getting another job (Naute, Van Vianen, Van Der Heijden, Van Dam & Willemsen, 2009; Wanberg, Hough, & Song, 2002). According to Koen *et al.*, (2010) career decision making is important for finding high quality re-employment.

Individuals who have well developed self/other skills and behavioural adaptability will experience **concern** about the vocational future, prepare for the vocational future (which can also be regarded as **control**), display **curiosity** by exploring possible selves and future scenarios and display **confidence** in the pursuit of their aspirations within their careers (Ferreira, 2012). Several recent studies have shown that career adaptability and its dimensions relate positively to important work and career outcomes, including job and career satisfaction (Chan & Mai, 2015; Zacher, 2014a; Zacher & Griifin, 2015).

This study intends to investigate the relationship that hardiness might have on students registered with TVET Colleges within Gauteng concerning their career adaptability. From the literature study above it can be concluded that hardiness might influence career adaptability (Ferreira, 2012; Ferreira *et al.*, 2013; Savickas & Porfeli, 2012; Zacher, 2014a; Zacher & Griifin, 2015).

This research study therefore aims to extend research on career development of TVET College students by investigating the relationship between hardiness as conceptualised by Kobasa, (1979, 1982, 1985) and career adaptability as conceptualised by Savickas, (1997, 2002, 2005).

The construct of career adaptability as a set of psychosocial resources and transactional competencies which individuals use to navigate career-related transitions and changes has gained prominence in the study of the 21st-century career (Savickas, 2013; Savickas & Porfeli, 2012; Porfeli & Savickas, 2012; Tolentino *et al.*, 2014). However, research on career adaptability in the African context is sparse (Ferreira, 2012; Harry & Coetzee, 2013; Maree, 2012, 2013) and needs further investigation, especially in terms of how this construct relates to other psychosocial attributes such as hardiness. Maree (2012) urges further research on the career adaptability resources of young people and employed adults in the African context in the light of the importance attached to individuals' career adaptability. Hirschi (2009) further points to the effects of career adaptability on positive career preparation and development and argues for more research regarding predictors of Savickas's (1997, 2013) construct of career adaptability. Similar to career adaptability, there seems to be a paucity of research on the construct of hardiness, especially in the African career context (Ferreira, 2012).

The foregoing background leads to the following hypotheses:

H1 - There is a significant and positive relationship between an individual's hardiness and career adaptability.

H2 - Individuals' hardiness significantly predicts their career adaptability.

1.2 PROBLEM STATEMENT

Based on the discussion above, the study aims to investigate the relationship between hardiness and career adaptability of students registered in TVET Colleges in order to succeed in their careers. The research aims to contribute to the body of knowledge on hardiness and career adaptability by investigating the relationship between the two variables. Moreover, demographical variables; such as age, gender, race, marital status and field of study are investigated to see if they have any influence on the hardiness and career adaptability of TVET Colleges students.

A review of the current literature on hardiness and career adaptability indicates the following research problems:

- Theoretical models do not clarify the relationship between hardiness and career adaptability.
- The relationship dynamics between hardiness and career adaptability and the implications of this relationship on career development for students in TVET Colleges may inform career development practices that could possibly enhance career adaptability; therefore, there is a need for this investigation.

It seems that research on the relationship between hardiness and career adaptability will make a significant contribution towards the discipline of Human Resource Management, particularly with regard to career development practices aimed at enhancing individuals' career adaptability in a more uncertain employment context.

The problem statement leads to the following general research question and a set of subsequent specific research questions outlined below:

Is there a significant relationship between hardiness and career adaptability in the context of career development of students in TVET Colleges and do students of different ages, gender, race, marital status and field of study differ in terms of these two variables?

1.2.1 Research questions with regard to the literature review

Research question 1: How are the two constructs hardiness and career adaptability conceptualised and explained by the theoretical models in the literature?

Research question 2: Does a theoretical relationship exist between hardiness and career adaptability and how can this relationship be explained?

Research question 3: Do demographical variables (age, gender, race, marital status and field of study) influence the theoretical relationship between hardiness and career adaptability?

Research question 4: What are the implications of the empirical associations for career development of students registered at TVET Colleges?

1.2.2 Research questions with regard to the empirical study

Research question 1: What is the nature of the empirical relationship between hardiness and career adaptability in a sample of respondents studying at TVET Colleges within Gauteng Province?

Research question 2: Do differences exist between hardiness and career adaptability in terms of the following demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents?

Research question 3: Do differences exist between the subgroups of the biographical variables that act as significant moderators between hardiness construct and career adaptability attributes (concern, control, curiosity, and confidence).

Research question 4: What are the conclusions and recommendations that can be formulated for the field of Human Resource Management in terms of career development of students' hardiness and career adaptability in TVET Colleges as well as future research?

1.3 AIMS OF THE RESEARCH

Based on the research questions discussed above, the following aims were formulated:

1.3.1 General aim of the research

The general primary aim of this research is to investigate whether relationship exists between hardiness (independent variable) and career adaptability (dependent variable) amongst TVET College students.

The secondary aim of the study is to determine whether students of different ages, gender, race, marital status and field of study differ significantly in terms of their hardiness and career adaptability.

1.3.2 Specific aim of the research

The following specific aims are formulated for the literature review and the empirical study:

1.3.2.1 Literature review

In terms of literature review, the specific aims are as follows:

Research aim 1: To conceptualise the career development and career support practices of students in the 21st century.

Research aim 2: To conceptualise and explain the constructs; hardiness and career adaptability from the theoretical perspective models in the literature.

Research aim 3: To identify and explain the relationship between hardiness and career adaptability in terms of the theoretical models of these constructs.

Research aim 4: To conceptualise the effect of the demographical variables (age, gender, race, marital status and field of study) on the relationship between hardiness and career adaptability.

1.3.2.2 Empirical study

In terms of the empirical study, the specific aims are as follows:

Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng.

Research aim 2: To empirically investigate whether differences exist between hardiness attributes (commitment, control and challenge) and career adaptability (concern, control, curiosity, and confidence) in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.

Research aim 3: To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).

Research aim 4: To formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings.

1.4 POTENTIAL VALUE ADDED

The objective of this study is to investigate the existence of a relationship between hardiness and career adaptability among students in TVET Colleges in Gauteng. Moreover, the study aims to investigate whether differences exist between hardiness and career adaptability of students at TVET Colleges in terms of the demographical variables (age, gender, race, marital status and field of study) in order to make recommendations for career development and support practices for students to adapt and ultimately succeed in their careers. Hardiness will be measured using the Personal Views Survey III-R (PVS III-R) as developed by Maddi & Khoshaba (2001) and career adaptability will be measured using the Career Adapt-Abilities Inventory (CAAI) as developed by Savickas and Porfeli (2012).

It is believed that the study may make a potentially important and original contribution in terms of the implications for hardiness and career adaptability on students in the TVET sector in order to improve their career adaptability, thus improving their careers as a whole.

1.4.1 Potential contribution on a theoretical level

At a theoretical level, this study may prove useful for the potential relationship between hardiness (independent variable) and career adaptability (dependent variable). If significant relationships are found, then the findings should prove useful in career development practices. Moreover, by exploring how individuals' demographical variables (age, gender, race, marital status and field of study) influence their level of hardiness and career adaptability, it may prove to be useful to understand the two variables in a multi-cultural context. The research results could contribute to the existing body of knowledge relating to the levels of hardiness that influence career adaptability among students in TVET Colleges.

1.4.2 Potential contribution on an empirical level

At an empirical level, the research may contribute towards understanding the empirical link between hardiness and career adaptability that may be used to inform career development practices. If no relationships are found between the two variables (hardiness and career adaptability) then the usefulness of this study will be restricted to the elimination of hardiness as a factor influencing career adaptability. Researchers could then focus their efforts on other research studies and avenues that could yield significant proof for solving the problem of how to improve career adaptability.

In addition, the study may highlight whether individuals with a different age, gender, race, marital status and field of study differ in terms of their hardiness and career adaptability. In light of the current context, students at TVET Colleges, the results may be valuable in improving the performance of students by identifying the different demographical information that addresses the needs of a diverse group of students.

1.4.3 Potential contribution on a practical level

At a practical level, if Human Resource professionals, the department of Higher Education and Training, TVET Colleges and all other stakeholders could develop a better understanding of the

constructs hardiness and career adaptability and the influence of these variables in terms of career development, then the outcomes would be significant enough to justify the continuation of the study. Another positive outcome of the proposed research could include raising awareness of the fact that students differ in their hardiness and career adaptability and that each student should be treated in a manner that is appropriate to him/her in order to promote hardiness and career adaptability which will lead to career success. Where empirically tested practical significant relationships are found, the findings of this study could also be used during the career counselling process and the formulation of intervention strategies that will assist individuals to adapt to their careers.

This is potentially ground-breaking research, because, to date, there is no existing study on the relationship of hardiness and career adaptability, especially in the TVET sector.

1.5 THE RESEARCH MODEL

According to Scotland (2012), a research model incorporates the five dimensions of social science research, namely, the sociological, ontological, teleological, epistemological and methodological dimensions, and their systemization within the framework of the research process. These five dimensions are aspects of one and the same process, namely, research. The sociological dimension conforms to the requirements of the sociological research ethic which makes use of the research community for its sources of theory development. The ontological dimension encompasses that which is investigated in reality. The teleological dimension suggests that the research should be systematic and goal directed. The epistemological dimension relates to the quest for truth. The methodological assumptions are beliefs about the nature of social science and scientific research (Creswell, 2014; Scotland, 2012).

The assumption of the research model is that it represents a social process. Social science research is a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it (Scotland, 2012). Such a model is described as a systems theoretical model with three subsystems. These subsystems are interrelated with each other and with the research domain of the specific discipline – in this case Human Resource Management and the focus area of Career Development. The subsystems are anchored in a specific research paradigm and comprise the intellectual climate, the market of intellectual resources and the research process itself.

1.6 PARADIGM PERSPECTIVE OF THE RESEARCH

The paradigm perspective refers to the cluster of a worldview or basic set of beliefs which influence what should be studied, how research should be done and how results should be interpreted (Bryman, 2014; Creswell, 2014). It consists of a variety of meta-theoretical assumptions which underlie the theories and models, providing the context of the research as well as the intellectual climate (Babbie, 2014). Furthermore, the paradigm perspective is considered the pattern, model or conceptual framework within which theories of a specific area of research are constructed. The paradigm perspective orientates both thinking as well as the research and acts as a map which guides the research process (Bogdan & Biklan, 1982).

For the purposes of this research, the term *paradigm* is used in its meta-theoretical, theoretical and methodological senses coupled with the assumptions underlying the theories and models that form the definitive context of a study (Creswell, 2014). The paradigm perspective, therefore, serves to clearly express the intellectual climate and the market of intellectual resources that form the boundary of the present study.

1.6.1 The intellectual climate

The literature review of hardiness and career adaptability is presented from the humanistic-existential paradigm and the empirical study is from the positivist research paradigm.

1.6.1.1 *The literature review*

The literature review is presented from the humanistic-existential perspective as highlighted below.

a) *The humanistic-existential paradigm*

Humanistic-existential psychology is about understanding an individual's life experiences and the ways in which they construct meaning to their world. It is about placing a high value on the unique ways in which individuals develop their own view of situations (Cilliers, 2000; Garrison, 2001).

The basic assumptions of the humanistic perspective are as follows (Cosgrove, 2007; Friedman, 2008; Schneider, Bugental & Pierson, 2001; Schneider, 2011):

- People should be studied as an integrated whole;
- People are responsible beings with the freedom of will to choose between various options;
- People are involved in a dynamic, ongoing growth process, in which they realise their potential to be truly themselves;
- Reality is socially created and socially sustained;
- Individuals should be seen as dignified beings;
- The nature of human beings is positive; individuals participate actively in determining their own behaviour; and
- Human existence is intentional. This forms the basis of human identity.

This paradigm is relevant in the current study because it relates to the constructs of hardiness and career adaptability.

1.6.1.2 Empirical research

The empirical research is presented from the positivist research paradigm. According to Schutt, (2012) in order to achieve an accurate understanding of the social world, the following positivist research guidelines should be adhered to:

- Test ideas against empirical reality without being too personally attached to a particular outcome.
- Plan and do the investigation systematically.
- Document all procedures and disclose them publicly.
- Clarify your assumptions.
- Specify the meaning of all the terms.
- Maintain a sceptical position towards current knowledge.
- Replicate research and build social theory and
- Search for patterns.

The positivist research paradigm was relevant to the current empirical study as human behaviour will be studied in its context and measured by means statistically analysed data that will provide an accurate and objective description of the facts. A quantitative study is clearly defined and focuses on an investigation into the existence and nature of the relationship between the two constructs of hardiness and career adaptability. In so doing, the study provides unambiguous and objective quantitative measures of the two concepts. These measures are derived from scientifically orientated procedures, statistically acceptable measurement instruments and statistically appropriate analysis (Mouton & Marais, 1994).

1.6.2 The market of intellectual resources

The market of intellectual resources refers to the collection of beliefs that have a direct bearing on the epistemic states of scientific statements (Mouton & Marais, 1996). For the purpose of this study, the theoretical models, meta-theoretical statements and conceptual descriptions relating to hardiness and career adaptability, central hypotheses and theoretical and methodological assumptions are presented.

1.6.2.1 Meta-theoretical statements

Meta-theoretical statements are the guidelines and assumptions underlying specific theories and methodological strategies that are not directly tested in the study being conducted but which are, nevertheless, applicable to the theories, models and paradigms contextualised in the research (Mouton & Marais, 1994). In this study, the focus in the literature review is on hardiness and career adaptability. The meta-theoretical statements presented in the study include those on Human Resource Management within the context of the sub-fields of Human Resource Development and Career Psychology.

a) Human Resource Development

Human Resource Development is considered the process of developing the human expertise and capacities through organisation development (OD), training and development (T&D) and career development (CD) for the purpose of creating and sustaining a pool of human capital for national development (Mateng'e, 2014). It is a subfield of Human Resource Management. Human Resource Management is a model of employment relations which revolves around the management of people in order to get the most from the workers whilst fostering an employment

experience that is positive for employees (Bach & Edwards, 2013). Rogers (2012) explains Human Resource Management as a process of generating, executing and evaluating policies and practices for obtaining, developing and engaging employees to do the work of the organisation (Rogers, 2012).

b) Career Psychology

Career Psychology, also known as Vocational Psychology, is focused on providing models and explanations for career related activities which bring about an understanding that personality traits, aptitudes, interests, motives and values which are largely influenced by society, culture and economy result in vocational behaviour, decision making ability and vocational maturity (Beukes, 2010; Coetzee, 1996). Career Psychology is the study of career development and career behaviour as integral parts of human development.

According to Greenhaus, Callanan and Godschalk (2000), career development refers to an ongoing process by which an individual progresses through a series of stages, each of which is characterised by a relatively unique set of issues, themes or tasks. This study has relevance in the field of career psychology because it supports the need for an overall conceptual framework for career development.

1.6.2.2 Theoretical models

In this research, the theoretical models are based on the following:

The literature review focuses on the hardiness model (Kobasa, 1985) and the career adaptability model (Savickas, 1997).

1.6.2.3 Conceptual descriptions

The following conceptual descriptions will serve as the point of departure for discussion in this study:

a) *Career development*

Career development refers to an on-going process whereby an individual progresses through a series of stages, each of which is characterised by a relatively unique set of issues, themes or tasks (Greenhaus, Callanan, & Godshalk, 2010). According to Niles & Harris-Bowlsbey, (2009) career development is a psychological and behavioural lifelong process and the contextual influences shaping one's career over his/her life span. It is an on-going process of planning and directed action toward personal work and life goals (Simonsen, 1997). This study has relevance in the field of career psychology because it supports the need for an overall conceptual framework of career development and career choices in the contemporary world of work.

b) *Hardiness*

Hardiness is explained as a collection of personality characteristics that function as a flexible life resource when one encounters challenges in life (Kobasa, 1979; Kobasa *et al.*, 1982; and Kobasa *et al.*, 1983). Hardiness is viewed as a significant stress resilience construct that relates to an individual's career well-being (Ferreira, 2012). According to Maddi *et al.*, (2012) and Abdollahi *et al.*, (2015) hardiness assists an individual to invert stressful occurrences from potential disasters into personally useful growth opportunities and health advantages. Hardiness explains a generalised style of functioning, characterised by a strong sense of commitment, control and challenge that serves to alleviate the negative effects of stress (Azeem, 2010; Ferreria, 2013; Zhang, 2011).

c) *Career adaptability*

Career adaptability is a psychological construct that denotes an individual's ability for coping with current and anticipated tasks, traumas and transitions or challenges in their personal or occupational life (Maree, 2012; Savickas, 2013; Savickas & Porfeli, 2010, Savickas & Porfeli, 2012). The concept of career adaptability is divided into four dimensions, which is also known as the 4C's and are; concern, control, curiosity and confidence (Savickas & Porfeli, 2012). Thus when vocational tasks, occupational transitions, or work traumas occurs, the adaptable individual is conceptualised as (a) becoming concerned about the vocational future, (b) taking control of trying to prepare for one's vocational future, (c) displaying curiosity by exploring possible selves

and future scenarios, and (d) strengthening the confidence to pursue one's aspirations (Savickas & Porfeli, 2012).

Table 1.1 provides a summary of the core constructs (hardiness and career adaptability), their underpinning models and the measuring instruments utilised in this study.

Table 1.1: *Summary of the Core Constructs Theoretical Models and Measuring Instruments of Relevance to the Study.*

Construct	Core description	Underpinning theoretical model/theory	Measuring instrument	Relevance to career development of students registered at TVET Colleges
Hardiness	The concept of hardiness as explained by Kobasa (1979) is viewed as a personality characteristic thought to shape the way an individual thinks about the world and to provide motivation to do difficult things (Zhang, 2011). An individual's ability to adapt and resourcefully respond to the demands posed by pursuing a career in the current era of a more turbulent, uncertain, and ever-changing employment environment has become important (Maree, 2013; Tolentino, Garcia, Lu, Restubog, Bordia, & Plewa, 2014; Zacher, 2014a).	Kobasa, (1985) Hardiness model	Personal Views Survey (PVSIII-R), Maddi & Khoshaba, (2001)	Individuals' ability to adapt and resourcefully respond to the demands posed by pursuing a career in the current era of a more turbulent, uncertain, and ever-changing employment environment has become important (Maree, 2013; Tolentino <i>et al.</i> , 2014; Zacher, 2014a).

Career adaptability	<p>Career adaptability refers to the self-regulatory psychosocial resources individuals need to successfully manage current and anticipated career transitions and adjustments (Savickas, 2013). The construct of career adaptability as a set of psychosocial resources and transactional competencies individuals use to navigate career-related transitions and changes has gained prominence in the study of the 21st-century career (Savickas, 2013; Savickas & Porfeli, 2012; Tolentino <i>et al.</i>, 2014).</p>	Savickas' (1997) Career adaptability model	Career Adapt-Abilities Inventory (CAAI, Savickas, 2010)	<p>Career adaptability is vital to career development because according to the career construction theory (Savickas, 2013), individuals with high levels of career adaptability possess greater competence and more psychosocial resources that enable them to adapt to and manage work- and career-related demands and changes. Successful adaptation, in turn, should positively impact their task and career performance, as well as their job and career satisfaction. Empirical research has provided support for these assumptions at the between-person level (Chan & Mai, 2015; Ohme & Zacher, 2015; Zacher, 2014a).</p>
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1.6.2.4 *Central hypothesis*

The study will endeavor to prove the following:

A relationship exists between hardiness and career adaptability. This hypothesis further assumes that individuals with different levels of hardiness will display different levels of career adaptability. Moreover, people from different ages, gender, race, marital status and field of study will display different levels of hardiness and career adaptability. Therefore, hardiness significantly influences career adaptability.

1.6.2.5 *Theoretical assumptions*

Based on the literature review, the following theoretical assumptions are addressed in this study:

- There is a need for basic research that seeks to isolate hardiness and career adaptability.
- Demographical factors such as age, gender, race, marital status and field of study will influence an individual's hardiness and career adaptability.

1.6.2.6 *Methodological assumptions*

Methodological assumptions are the beliefs that concern the nature of social science and scientific research. The following assumptions affect the nature and structure of the current study:

a) *Sociological dimension*

The sociological dimension conforms to the requirements of the sociological research ethic that makes use of the research community for its sources of theory development, which is viewed as a joint or collaborative activity (Scotland, 2012). Within the bounds of the sociological dimension, research is experimental, analytical and exact, since the issues that are being studied are subject to quantitative research analysis. The variables and concepts related to this research will be described in chapter 2 (Career development and students in TVET colleges in the 21st century) and chapter 3 (hardiness and career adaptability).

b) Ontological dimension

The ontological dimension of research is the study of 'being' or 'reality' (Scotland, 2012). According to Bryman (2014) ontological dimension is about considerations that should be made in a research study about the nature of the social phenomena investigated as it influences the research process. Positivists believe that there is a single, tangible reality that is relatively constant across time and setting (Wagner, Kawulich & Garner, 2012). This reality is referred to as the domain of social science research, which encompasses human activities and institutions whose behaviour can be measured and broken down into variables. This research will measure the properties of the constructs of psychological hardiness and career adaptability and will be described in chapter 4 (Empirical research) and chapter 5 (Research results).

c) Teleological dimension

According to Mouton & Marais, (1996) the teleological dimension views research as systematic and goal directed where its main aim is to understand the phenomena that are being investigated. Therefore, it is necessary to state the problem being investigated and relate it to the research goals. The goal of this research is to measure the relationship between hardiness and career adaptability. Moreover, the dimension furthers the field of Human Resource Management by making recommendations on career development in chapter 6 (Conclusions, limitations and recommendations).

d) Epistemological dimension

Epistemology is concerned with the question of what is or should be regarded as acceptable knowledge in a discipline (Bryman, 2014). Bryman (2014) argues whether the social world can and should be studied according to the same principles, procedures and ethos like the natural sciences. The epistemological positions include positivism, realism and interpretivism. Positivism is an epistemological approach that advocates applying natural sciences' methods to study and understand social reality (Bryman, 2014). Realism is a philosophical position that acknowledges reality independent of the senses that is accessible to the researcher. Interpretivism is a research approach that is contrary to positivism and believes that people and objects are different. Therefore, social scientists should grasp the subjective meaning of social action (Bryman, 2014).

According to Mouton and Marais (1996), this dimension relates to the quest for truth. A primary aim of research in the social sciences is to come up with findings that are valid and reliable in order for people to understand their reality. This research aims to achieve this truth through an effective research design and the generation of reliable and valid results.

e) *Methodological dimension*

Methodological assumptions in the social sciences are related to research that may be regarded as objective by virtue of them being critical, balanced, unbiased, systematic and controllable (Salkind, 2012; Scotland, 2012). According to the methodological, the purpose of research is to predict results, test a theory or determine the strength of relationship between variables (Wagner *et al.*, 2012). The methodological dimension concerns what may be called the 'how' of social science research. In other words, how should research be planned, structured and executed in order to comply with the criteria of science? This is defined as the logic of applying scientific methods to the investigation of phenomena. According to Salkind (2011), research methodological is the theory of correct scientific decisions. The aim of the methodology dimension is to develop a more critical orientation on the part of researchers by eliminating obviously incorrect decisions and, in so doing, to maximize the validity of research findings (Salkind, 2012).

This study will present a quantitative (exploratory, descriptive and explanatory) research in the form of a literature review as well as a quantitative research in the empirical study on the relationship between hardiness and career adaptability of TVET College students.

1.7 RESEARCH DESIGN

According to Salkind (2012), research design is defined as the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance with the research purpose. Such a design is viewed as a strategic framework which serves as a bridge between the research questions and the execution of the research.

The research design for this study is discussed with reference to the types of research conducted, followed by an explanation of validity and reliability.

1.7.1 Exploratory research

Exploratory research is conducted when a researcher wants to familiarise himself/herself with a particular topic or phenomenon by taking a good look at it, and to generate data that will provide insight into the phenomenon (Babbie, 2014; Koekemoer, 2014). This is the type of research conducted when a problem has not been clearly defined (Sachdeva, 2009). The objective of exploratory research is to gather preliminary information that will help define the research problem(s) and to suggest hypotheses. According to Babbie (2014) exploratory research is typically done for the following purpose:

- To satisfy the researcher's curiosity and desire to better understand a topic or phenomena.
- To test the feasibility of undertaking an extensive study on the topic
- To develop the methods to be used in the subsequent study.

This research is exploratory as it compares various theoretical perspectives on hardiness and career adaptability.

1.7.2 Descriptive research

Descriptive research refers to the in-depth description of the specific individual, situation, group, organisation, tribe, culture, subculture, interactions or social objects (Salkind, 2012). The purpose of descriptive research is to classify systematically the relationships between variables in the research domain (Babbie, 2014). The overriding aim is to describe issues as accurately as possible. Descriptive research is applicable in the literature review with reference to the conceptualisation of the constructs of hardiness and career adaptability.

In the empirical study, descriptive research is applicable with reference to means, standard deviations and Cronbach alphas, in terms of the constructs of hardiness and career adaptability.

1.7.3 Explanatory research

Explanatory research goes further than merely indicating that a relationship exists between the variables (Salkind, 2012); it indicates causality between variables or events. Its major aim is to explain given phenomena. Descriptive research answers questions of what, where and how while

explanatory studies address the questions of why (Babbie, 2014). However, due to the cross-sectional design of the research, the focus will not be on establishing cause-effect relationships. This form of research will be applied in the empirical study of the relationship between hardiness and career adaptability of students registered at TVET Colleges within Gauteng.

The researcher wishes to formulate a conclusion about the relationship between the two constructs and will therefore fulfil the requirements for explanatory research as outlined above.

1.7.4 Validity

Research design is synonymous with rational decision making during the research process and, irrespective of how structured or unstructured a research project is likely to be, it is the duty of the researcher to ascertain the factors that may pose a threat to the validity of the findings (Bryman, 2014; Salkind, 2012).

Research should be both internally and externally valid. Internal validity refers to the study generating accurate and valid findings on a specific phenomenon (Babbie, 2014; Salkind, 2012). A research project is referred to as having produced internally valid results if the constructs were measured in a valid manner. For research to be internally valid the constructs must be measured in a valid manner and the data measured must be accurate and reliable. Moreover, the analysis should be relevant to the type of data collected, and the final solutions must be adequately supported by the data. Internal validity also refers to whether variations in the dependent variables can be attributed to the independent variables and not to extraneous or confounding variables related to, for example, maturation, history, testing or instrumentation (Salkind, 2012).

External validity refers to a further stage in the research process, that is, that the findings of a given project are generalisable to all similar cases. In other words, the findings have a greater validity than merely for the project in which they are generated (Tredoux & Durrheim, 2013). Salkind (2012) states that for the research to be externally valid the findings must be applicable to all similar cases and must also be valid for similar studies other than the one under review. External validity is also associated with the sampling procedures used, the time and place of the research, and the conditions under which the research will be conducted (Salkind, 2012).

1.7.4.1 Validity with regard to the literature review

In order to ensure validity in this research, the researcher has conducted the literature study by consulting research that relates to the nature, problems and aims of this study. The constructs and concepts found relating to hardiness, career adaptability and career development could be found in the relevant literature and will be structured in a rational, systematic and logical manner. Efforts were made to use the most recent sources, however, certain classical conventional sources have been used because of their relevance to the study in order to conceptualise the constructs of the study.

1.7.4.2 Validity with regard to the empirical study

As this study aims to investigate the relationship between variables: hardiness (independent variable) and career adaptability (dependent variable), validity especially internal validity is crucial. Internal validity describes the degree to which changes in the dependent variable are indeed due to the independent variable rather than any other factors that the study is not focusing on.

In order to ensure validity in the empirical study, appropriate and standardised measuring instruments will be used. The measuring instruments were critically examined for their content validity (how judges assess whether the items or questions are representative of possible items), criterion-related validity (whether the scores relate to some external standard such as scores on similar instruments) and construct validity (whether the instruments measure what they intend to measure (Creswell & Plano Clark, 2011)).

1.7.5 Reliability

The concept reliability means repeatability or consistency (Bryman, 2014; Sachdeva, 2009). A measure is considered reliable if it will provide the same results repeatedly (Babbie, 2014).

Reliability in this study will be ensured by thoroughly planning the research to limit nuisance or problematic variables. A representative sample is used and the research context is always respected, therefore the reliability of the empirical study is ensured. In the literature study, reliability has been ensured by using available literature sources and theories that are available to researchers (Bryman, 2014; Foxcroft & Roodt, 2005). All instruments in this study have also been utilised based on their reliability, which has been ensured by means of previous research.

1.7.6 The unit of research

Unit of analysis refers to things we examine or study in order to create summary descriptions of all such units and to explain the difference among them (Babbie, 2014). In the social sciences, the most common object of research is the individual human being (Babbie, 2014; Salkind, 2012). The unit of analysis distinguishes between the characteristics, conditions, orientations and actions of the individuals, groups, organisations and social artefacts (Salkind, 2012). The purpose of this study is to investigate whether a relationship exists between hardiness (independent variable) and career adaptability (dependent variable), and to determine whether individuals of different ages, gender, race, marital status and field of study differ with regard to these two variables. Therefore, the unit of analysis in this study is individuals.

1.7.7 The research variables

The aim of this research is to measure the relationship between hardiness (independent variable) and career adaptability (dependent variable) of students in TVET Colleges and to measure the differences of the students' hardiness and career adaptability in terms of the demographic variables (age, gender, race, marital status and field of study).

Robbins (2009) and Creswell (2014) describe a dependent variable as a key factor that you want to explain or predict which is affected by some other factor(s) and an independent variable is the presumed cause of some change in the dependent variable. In this study, the Personality Views Survey (PVS III-R, Maddi & Khoshaba, 2001) will comprise the independent variable (hardiness) and the Career Adapt-abilities Inventory (CAAI, Savickas & Porfeli, 2012) will comprise the dependent variable (career adaptability).

In an effort to determine a relationship between hardiness and career adaptability, data will be gathered by means of the measuring instruments indicated above.

The research is interested in:

- Measuring the relationship between hardiness (independent variable) and career adaptability (dependent variable).
- Age, gender, race, marital status and field of study level of the relationship between hardiness (independent variable) and career adaptability (dependent variable).

Figure 1.3 below provides a diagrammatic representation of the aforementioned relationship between the variables of the study.

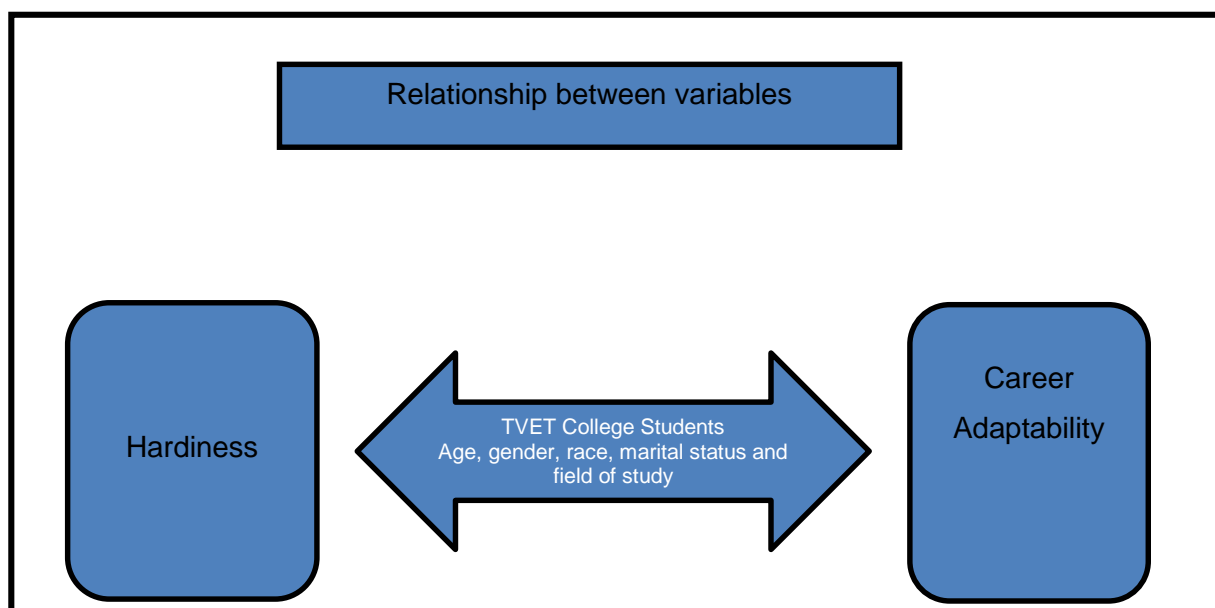


Figure 1.3: Relationship between Variables

1.7.8 Delimitations

The study is limited to research dealing with the relationship between hardiness and career adaptability of students registered at TVET Colleges within Gauteng. The constructs will be confined to the demographical variables (age, gender, race, marital status and field of study). The concept of hardiness will be limited to the 3C's (Commitment, Control and Challenge). The concept of career adaptability will be limited to the 4C's (concern, control, curiosity and confidence). The data collected will not be classified according to factors such as spirituality, disability, psychological illness.

This research is a groundwork study and its focus is restricted to the relationship between hardiness and career adaptability of students. If a relationship exists between the two variables (hardiness and career adaptability) in terms of students in TVET Colleges within Gauteng, the findings would be useful to other researchers addressing issues relating to hardiness and career adaptability. This research is not intended to determine the cause and the effect of the relationship between hardiness and career adaptability but to establish whether a relationship exists between the two variables and if the relationship is influenced by age, gender, race, marital status and field of study.

1.8 RESEARCH METHODOLOGY

The research will be conducted in two phases, namely the literature review, the empirical study and the integration of the two. Each phase will consist of different steps, which are explained in Figure 1.4 as follows:

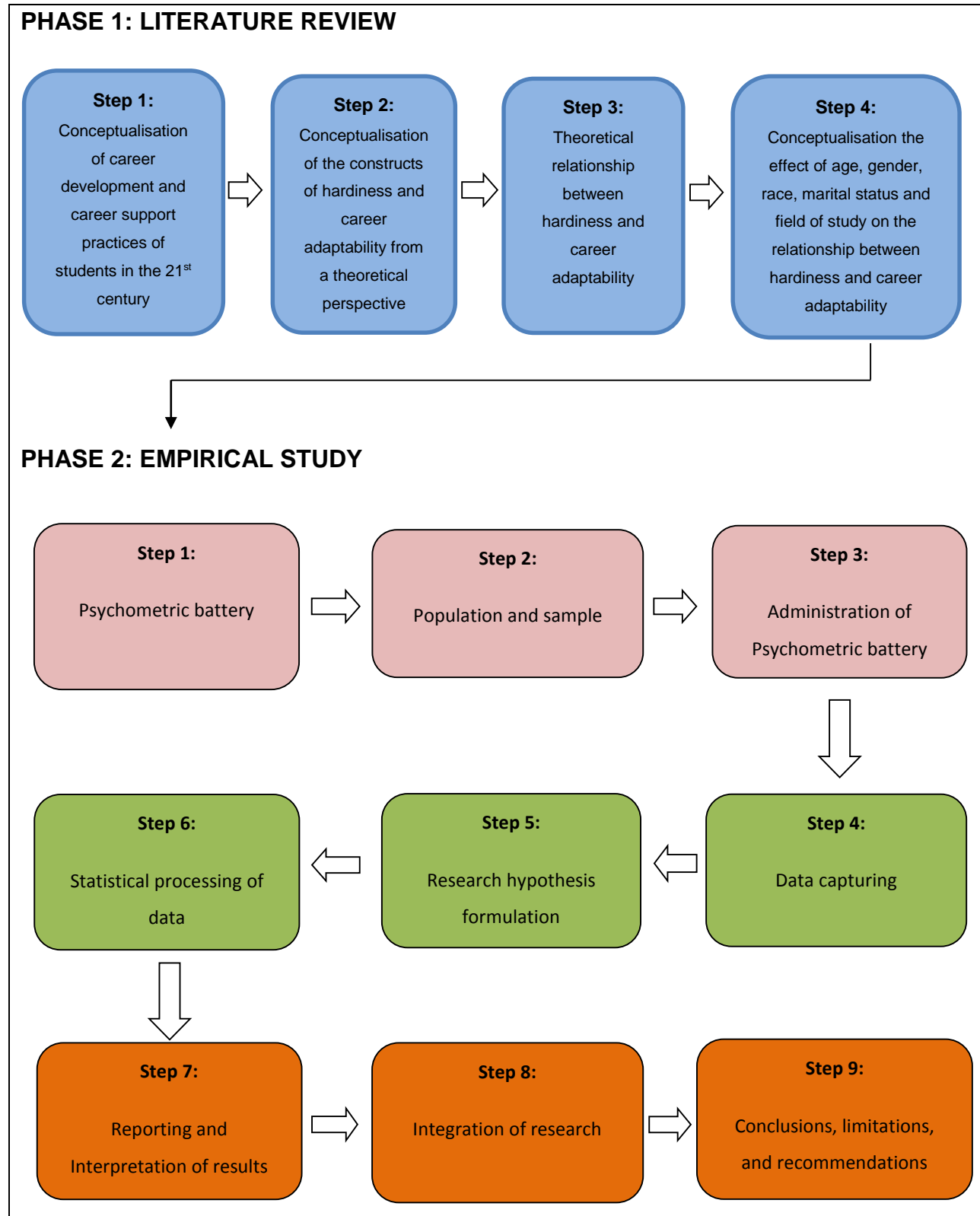


Figure 1.4: Flow Diagram of the Research Method

1.8.1 Phase 1: Literature review

The literature review consists of a review of hardiness and career adaptability.

Step 1: Addresses research aim 1 of the literature review, namely to conceptualise career development and career support practices of students in the 21st century.

Research relating to career development and career support practices in the 21st century is evaluated. Emphasis is placed on students in TVET colleges.

Step 2: Addresses research aim 2 of the literature review, namely to conceptualise the constructs of hardiness and career adaptability from a theoretical perspective.

Research in the field of career psychology relating to the constructs of hardiness and career adaptability are critically evaluated. Based on this conceptualisation, the implications for career development of students in TVET colleges are discussed.

Step 3: Addresses research aim 3 of the literature review, namely to identify and explain the theoretical relationship between hardiness and career adaptability.

A theoretical integration of the constructs hardiness and career adaptability will be conducted within the perspective of career development.

Step 4: Addresses research aim 4 of the literature review, namely to conceptualise the effect the demographical variables (age, gender, race, marital status and field of study) have on the relationship between hardiness and career adaptability.

Research relating to the effect of age, gender, race, marital status and field of study on the constructs of hardiness and career adaptability are discussed.

1.8.2 Phase 2: The Empirical Study

The empirical investigation comprises nine steps which are as follows:

Step 1: Choosing and motivating the psychometric battery

The measuring instruments that measure the independent variable (hardiness) and the dependent variable (career adaptability) are discussed. This is accomplished in chapter 4.

Step 1: Determination and description of the sample

The population is identified and the sample determined. This is accomplished in chapter 4.

Step 3: Administration of the psychometric battery

This step involves a description of the data following the steps below:

Step 4: Capturing of criterion data

The responses of the subjects to each item of the three questionnaires are captured to an electronic spreadsheet, which is then converted to a Statistical Package for Social Sciences (SPSS) data file.

Step 5: Formulation of research hypothesis

Research hypotheses are formulated from the central hypothesis to be empirically tested. This is accomplished in chapter 4.

Step 6: Statistical processing of data

The statistical procedure relevant to this research includes descriptive statistical analysis (internal consistency reliability, means, standard deviations, kurtosis and skewness); correlational analysis (Pearson product-moment correlation coefficients); and inferential statistics (step-wise hierarchical regression analysis and test for significant mean differences). This is accomplished in chapter 5.

Step 7: Reporting and interpreting the results

The results of the study are presented in tables, graphs and diagrams and the discussion of the findings will be presented in a clear and logical manner. This is accomplished in chapter 5.

Step 8: Integration of the research findings

The findings relating to the literature review are integrated with the findings of the empirical study in order to draw conclusions about the findings of the research. This is accomplished in chapter 5.

Step 9: Formulation of conclusions, limitations and recommendations

The final step relates to conclusions based on the results and their integration with the theory. The limitations will also be discussed and recommendations are made in terms of hardiness and career adaptability as constructs used to inform career development practices of students studying in TVET Colleges. This is accomplished in chapter 6.

1.9 CHAPTER LAYOUT

The chapters of this study will be as follows:

Chapter 1: Scientific overview of the research

Chapter 2: Career development and students in TVET Colleges in the 21st century

Chapter 3: Hardiness and career adaptability

Chapter 4: Empirical research

Chapter 5: Research results

Chapter 6: Conclusions, limitations and recommendations

1.10 CHAPTER SUMMARY

The background to and rationale of the research, the aim of the study, the research model, paradigm perspectives, the theoretical research and its design and methodology, the central hypothesis and the research method were all discussed in this chapter. The rationale for the study is the fact that no known research has been concluded on the relationship dynamics

between hardiness and career adaptability in the context of students in the TVET sector. The research endeavours to critically investigate and, on the basis of sound research methodology, evaluate the existence of a relationship between hardiness and career adaptability and to determine whether demographical variables such as age, gender, race, marital status and field of study have an impact on the hardiness and career adaptability of students studying in TVET Colleges in Gauteng.

Chapter 2 addresses research aim 1 and discusses career development and students in the TVET Colleges in the 21st century.

CHAPTER 2: META-THEORETICAL CONTEXT OF THE STUDY: CAREER DEVELOPMENT AND STUDENTS IN THE TVET COLLEGES IN THE 21ST CENTURY

KEYWORDS

21st century career, career development, career success, boundaryless career, protean career, and TVET college students.

The aim of this chapter is to put the present study in context by outlining the meta-theoretical context that forms the definitive borders of the research. Career development in the 21st century and students in Technical Vocational Education and Training (TVET) colleges will be discussed in this chapter.

2.1 STUDENTS IN TVET COLLEGES

TVET is regarded as a key element in economic growth and poverty reduction (Powell, 2013; Yi, Zhang, Yao, Mang, Ma, Shi, Shi, Chu, Loylka, & Rozelle, 2015). College is a critical time in young peoples' career development (Gore & Metz, 2008). It is at this stage that college students' interests develop through participating in course work and through both employment and classroom-based occupational exploration (Garraway, Bronkhorst, & Wickham, 2015). However, the first phase of a vocational career is characterised by a high risk of failure and many individuals tend to think that they made a wrong career choice (Volodina, Nay, & Köller, 2015). Their career trajectories are also supported or hindered by their abilities to set and meet academic and career-related goals, and by the support and influence of their peers, professors, parents, and advisors (Hiester, Nordstrom, & Swenson, 2009; Lapan, 2004; Swenson, Nordstrom, & Hiester, 2008). College students develop job-related skills through their continual interactions with peers in the classroom and at work environments (Garraway *et al.*, 2015).

However, very often college students become discouraged in the pursuit of their educational and career goals. For example, research has shown that college students are experiencing increasing levels of stress and feelings of hopelessness (Abdollahi, Talib, Yaccob & Ishmail, 2015; Constantine, Wilton, & Caldwell, 2003; Rice, Leever, Christopher, & Porter, 2006). This reality in

many college students' lives can interfere with their success in preparing to enter the world of work which is characterised by rapid and unpredictable changes, a high demand for personal responsibility and self-determination, and an expectation that people should be both agentic and adapt flexibly to new challenges without losing their core identities (Flum & Blustein, 2000; Savickas, 1994; Watts, 1996).

A study among Chinese undergraduates found that the four components of career adaptability (concern, control, curiosity, and confidence) have a moderate relationship with professional competence (Guo, 2014). Among a sample of United States undergraduates, it was found that career adaptability was positively related to career decision self-efficacy, as a result students high on career adaptability felt more efficacious in making career decisions (Douglass & Duffy, 2015). Research by Perera and McIlveen, (2014) found that the career adaptability resource of optimism predicted academic adaptation among undergraduates over a period of time. According to Duffy *et al.*, (2015) undergraduates with high levels of career adaptability are more likely to be employed post-graduation, are more efficacious in making career decisions and in overall tend to be more competent and optimistic about their careers.

Thus, it is important not only to help college students find ways to increase the types of educational and vocational skills that can help them reach their goals, but also to enhance their hardiness and career adaptability as they continue to pursue their educational and career dreams.

Technical Vocational Education and Training (TVET) colleges are a component of the education and training system designed to respond to intermediate-level pre-employment skills development, they serve as crucial mechanisms for engaging the national skills development challenge (Akoojee, 2009; Powell, 2013). Policymakers in many developing countries regard upper-secondary and technical vocational education and training (TVET) as a key element in economic growth and poverty reduction (Volodina *et al.*, 2015; Yi *et al.*, 2015). Even in the South African context, TVET colleges are constituted as part of the broader struggle to resolve the economic, political and social contradictions inherent in the tension between social redress and economic growth, and are situated at the crossroads between compulsory education, higher education and the world of work (Department of Higher Education and Training, 2010; 2011; 2013c; 2015). According to the Skills Development Act (1998), TVET colleges are regarded as critical drivers for responding to the skills needs of the South African economy and are

conceptualized to provide the intermediate to higher-level skills required for economic growth in order for the country to compete effectively in the global economy (Department of Labour, 1998).

As such, TVET colleges are appropriately placed to serve as access points into skills for less advantaged sectors, and as a response to labour market needs. TVET colleges are to respond to the social disparities of apartheid by providing access to high-quality and relevant education and training that provides the skills and attitudes required for employability, including – within the context of insufficient jobs in the formal economy – training for entrepreneurship and for the informal economy (Badroodien & Kraak 2006; King & McGrath 1999). Colleges also have an important role to play in providing second-chance and non-traditional access routes to higher education (McGrath, 2010). Therefore, their role as social and economic agents of transformation is unquestionably important (Akoojee, 2009).

When launching the National Skills Development Strategy (NSDS) III for 2011 to 2016 on 13 January 2011, Minister of Higher Education and Training, Dr. Blade Nzimande indicated that the strategy is aimed at improving the effectiveness and efficiency of the skills development system as well as empowering people with technical skills, writing and numeracy skills in order to access employment (Department of Higher Education and Training, 2011; Van Rooyen, 2011). The NSDS III has eight goals and goal three (3) focuses on promoting the growth of a public TVET college system that is responsive to sector, local, regional and national skills needs and priorities. Therefore, a public TVET college system is central to skilling and re-skilling the youth and adults of South Africa (Powell, 2013; McGrath, 2011; Van Rooyen, 2011).

The Department of Higher Education and Training (DHET)'s highest priority is to strengthen and expand the public TVET colleges and turn them into attractive institutions of choice for school leavers (DHET, 2013c). According to DHET, the total head-count enrolments have increased from just over 345 000 in 2010 to an estimated 650 000 in 2013; they will increase to one million by 2015 and 2.5 million by 2030. TVET college enrolments continued to increase and have more than doubled over the past five years, surpassing set targets. It was only during 2014 that this trajectory became derailed and the 2014 – 2015 APP target of 800 000 was not achieved. A total of 709 533 (unaudited) students enrolled in public TVET colleges in 2014 representing an increase of 39 048 students from the 670 455 headcount enrolments reported for 2013 (DHET, 2015). Table 2.1 provides the strategic objectives, performance indicators, planned targets and actual achievements of the TVET sector in the 2014 - 2015 financial years.

Table 2.1: *Programme Performance: Strategic Objectives, Performance Indicators, Planned Targets and Actual Achievements*
(Department of Higher Education and Training, 2015, p.71)

Strategic objective	Performance indicators	Actual achievement 2014/15	Planned target for 2014/15	Actual achievement 2014/15	Deviation from planned targets, to actual achievement 2014/15	Comments on deviation; both over and under achievement
Programme 4: Vocation and Continuing Education and Training						
4.5.2.1 Increase access to and improve success in programmes leading to intermediate and high-level learning by 2014	Number of TVET Colleges' annual headcount enrolments on Ministerial approved and occupationally directed programmes in an academic year	670 455	800 000 Headcount enrolments in TVET Colleges by 31 December 2014	709 535 (unaudited) Student headcount Enrolments on both the ministerially approved i.e. the National Vocational (NC(V)) and Report 190/1 programmes and occupationally Directed programmes offered at TVET Colleges have been achieved	Target not achieved There is a negative variation of 90 465 student headcount enrolments	645 421 of the total enrolments were on Ministerially approved programmes while 64 111 were on occupationally directed programmes. The reported underachievement is attributed to physical (infrastructure) and human resource (teaching staff) limitations at TVET Colleges. Another factor contributing to this is programme funding in the sector

Based on examination statistics, there is in overall, a fairly even gender balance among students in TVET colleges although gender stereotypes in some programmes still persist (DHET, 2015). According to DHET, females dominate in certain categories that are traditionally associated with females, like office administration, while males strongly dominate the engineering and construction related disciplines. However, the growth of women in the latter disciplines and their preponderance in the areas of management studies, finance, economics and accounting as well as the overall gender balance among TVET students indicate that young women are beginning to take up opportunities afforded to them since the advent of democracy (DHET, 2015). Table 2.2 provides a summary of student profiles between 2007 and 2010.

Table 2.2 *College Student Profile, 2007-2010 by 2010* (Cosser, Kraak, & Winnaar, *et al.*, 2011, p.13)

Province	Demography									Home Province	Financial support		
	% female	% black	% disabled 2008-2010	Age						% students from outside province of college	% students not in receipt of support	% students in receipt of support from:	
				15-19	20-24	25-29	30-34	35-39	40+			NSFAS	Other
EC	54	98	0.2	21	55	16	5	2	1	0	71	27	3
FS	53	86	0	19	54	13	6	5	3	2.6	87	6	7
G	45	96	0	22	58	12	4	2	2	29.4	55	45	0
KZN	56	98	0	18	56	16	5	2	2	10	70	20	11
L	54	100	0	13	68	14	3	1	2	1.8	30	70	0
M	53	98	0.2	15	61	15	5	3	2	15.3	47	41	12
NC	52	96	MD	20	50	13	7	5	2	MD	28	54	18
NW	49	96	0.5	19	56	14	5	3	2	6	79	21	0
WC	55	90	0.9	29	44	11	6	5	2	2.3	44	36	20
National	52	96	0.2	20	56	14	5	3	2	9(MD = 18)	58	36	6

Much of the expansion over the past few years was made possible by the abolition of tuition fees and the provision of transport or accommodation allowances to students from disadvantaged backgrounds. This resulted in an increase of the bursary allocation to TVET colleges from R300 million in 2010 to R1.988 billion in 2013 and this amount is expected to increase significantly over the next two decades to accommodate the increasing numbers of students (DHET, 2015).

However, the success rates of college students are still generally too low, despite some improvements over the past few years. Despite the high profile of upper-secondary TVET in China over the past decade, policymakers and researchers are also concerned that upper-secondary TVET dropout rates remain high (Yi *et al*, 2015). This is despite steady increases in financial aid and reductions in tuition rates, which reduce the cost of attending upper-secondary TVET (Fo & Xing, 2011).

Support is therefore crucial to ensure that students adapt to the demands of college life and that they can meet the demands of college programmes (DHET, 2015). Some colleges already offer various student support services, such as academic support, social support, assisting students to get bursaries and complete their programmes of study, and assistance with finding workplaces for the practical components of their programmes and jobs on completion of their studies.

Therefore, the study would be looking at support for students that will enhance hardiness and career adaptability in order to manage their own careers. Their ability to manage their careers will enhance their employability and in turn have a positive effect on the retention.

2.2 CAREER DEVELOPMENT IN THE 21ST CENTURY

Career development refers to a life-long process that encompasses much of an individual's life span which begins from childhood (and includes the formal and informal experiences that give rise to talents, interests, values, and knowledge of the world of work), continues into adulthood via the progression of one's career behaviour (e.g. entry into and adjustment to work over a period of time), and culminates with the transition into, and adjustment to retirement (Lent & Brown, 2013). The focus of career development in the past century was to assist individuals to be ready to decide on a job, occupation or vocation, however, in the 21st century, there has been a shift to career adaptability, of which its main goal is to develop self so that in due course an individual

makes a career choice and eventually become what he/she wants to be (Uy, Chan, Sam, Ho, & Chernyshenko, 2015).

Individuals are living in a time of unprecedented change in personal, economic and social life (Amundson, Mills, & Smith, 2014). According to Amundson *et al.* (2014), these changes have implications on career choice and development. Due to the changing nature of careers, individuals in the 21st century should learn how to deal with employment uncertainties, job transitions and even joblessness or temporary work assignments, all of which require individuals to take ownership of their career development (Savickas, 2011). Currently, occupational prospects are far less definable and predictable, with job transitions more frequent and more difficult (Savickas, Nota, Rossier, Dauwalder, Duarte & Guichard, 2009). As a result, these changes require individuals to develop skills and competences that are extensively different from the ones required by 20th century occupations.

Career scholars emphasise that individuals should have psychosocial career meta-competencies in order to reconceptualise their careers and redesign their working life in the 21st century (Bezuidenhout, 2011; Coetzee, 2008; 2010; Savickas, 2011; Savickas & Porfeli, 2012). Weigl, Hornung, Parker, Petru, Glaser and Angerer (2010) also highlight the shift in career development in the 21st century towards assessing and strengthening the individual's psychosocial resources in order to manage occupational transitions, developmental tasks and work traumas. As a result, career development should enable individuals to think of their future careers in boundaryless and self-directed ways which are deemed vital for career adaptability in an uncertain and changing job market (Savickas & Porfeli, 2012).

According to Rodrigues, Guest, Oliveira and Alfes (2015) career development is about the development of employees that is beneficial to both the individual and organisation, and is a complex process. The changing macro-environment emphasises that we are in an era of 'do-it yourself career management' where individuals are confronted with the need to play a greater role in constructing their own career development, an era where 'careers are now forged, not foretold' (Watts, 1996, p.46). Similarly, Savickas *et al.* (2009) used the term 'life designing' to describe the process of individuals constructing their own careers. Younger workers are encouraged to act as free agents, in developing personal enterprises and marketing personal skills (Patton & McMahon, 2014). According to Patton and McMahon (2014) individuals need to pay increasing attention on employability rather than job security, and learn the skills which will

assist them in taking charge of the direction and advancement of their own careers. Patton and McMahon (2014) further emphasize that it is the individual, his/her knowledge and skills that need to be created securely and not the job. Career development is now viewed as multi-directional and multi-levelled (Patton & McMahon, 2014). Hence, the societal structures in which the career is pursued are influenced by environmental factors that impact on the employability and career development of individuals (Hall, 2013; Savickas, 2013).

Globalization has given rise to many issues such as changing economic, political, social and cultural environments influencing the way employees work and manage their careers (Amundson *et al.*, 2014, Lyons, Schweitzer, Ng, 2015). Hence, employees have to be proactive and take the initiative to plan for their own careers despite the changing landscape of their respective organisations or industries. In addition, employees must be proactive and determined to take initiatives to act on their own career plans despite the chaotic and turbulent landscape of business organisations (Amundson *et al.*, 2014).

As a result of this change in focus from linear career development, it is imperative for individuals to learn to intentionally make the necessary changes as the environment change based on the understanding of the individual as a self-organising and active system (Amundson *et al.*, 2014). Amundson *et al.* (2014) asserts that people make sense of the world of work through subjective interpretation of their own career experience.

2.2.1 Career evolution

The world of work is rapidly changing. Brown (2012) states that societal and economic shifts such as globalization, offshoring, and the recent unemployment crisis indicate how unstable and unpredictable the world of work has become. It is now common for people to go through a number of career transitions throughout their lifespan (Fouad & Bynner, 2008; Savickas, 2011). Both unpredictability and rapid change make career planning difficult, and may increase the likelihood that chance events will affect people's career development (Rice, 2014).

In the past, organisations had a rigid, hierarchical structure and operated in a stable environment, as a result careers were, linear, hierarchical, predictable, secure and organisation-centric (Baruch, 2004; Baruch, 2014; Savickas, 2011). Moreover, individuals were expected to work at and serve one or two organisations throughout their entire life span. However, in recent years

the focus has shifted to employees moving between various organisations throughout their life span and they now expect the organisations to serve them (Baruch, 2004). Employees generally took a passive role in managing their careers and often sought direction from their organisation (De Vos & Soens, 2008; Gubler, Arnold, & Coombs, 2014; Waters, Briscoe, Hall, & Wang, 2014).

In contemporary times, an individual's career is more fluid with no particular predictable pattern (Lyons, Schweitzer, Ng, & Kuron, 2012). Several authors such as Baruch, 2004; De Vos & Soens, 2008; Hall, 2004; 2013; Litano and Major, 2016 highlighted the change from traditional, long-term based career relationships to a new transactional, shorter career relationship between the employees and employers. The current generation of workers changes jobs and employers easily and they willingly accept non-upward career moves (Lyons *et al.*, 2012, Lyons *et al.*, 2015). In general, the current generation of employees increasingly take responsibility for their own professional development to guarantee continued employability (Okurame, 2008; Supeli & Creed, 2016). Table 2.3 summarizes the key drivers for change in the 21st century.

Table 2.3: *Key Drivers for Change in the 21st Century*

Globalisation	Amundson (2006); Amundson, Mills, & Smith (2014); Blickle & Witzki (2008); Briscoe, Henagan, Burton, & Murphy (2012); Brown (2012); Coetzee, Ferreira, & Potgieter, (2015); Hall & Chandler (2005); Gubler <i>et al.</i> (2014); Nel & Neale-Shutte (2013); Savickas (2011); Sullivan (2010); Sullivan & Baruch (2009); Supeli & Creed (2016); Tran(2013); Uy, Chan, Sam, Ho, & Chernyshenko (2015).
The use and advancement of technology	Amundson (2006); Amundson <i>et al.</i> (2014); Baruch (2006); Blickle & Witzki (2008); Brown (2012); Gubler <i>et al.</i> (2014); Nel & Neale-Shutte, 2013; Potgieter & Coetzee (2013); Savickas (2011); Tran (2013); Uy, Chan, Sam, Ho, & Chernyshenko (2015).
Government policies (mandatory retirement age, pension funds, labour laws, immigration policies)	Amundson <i>et al.</i> (2014); Goos, Manning, & Salomons (2009).
Organisational change (mergers, joint ventures, acquisitions, outsourcing, downsizing, business restructuring and subcontracting)	Baruch (2006); Blickle & Witzki (2008); Brown (2012); Burke & Ng (2006); Clarke (2008), Gubler <i>et al.</i> (2014); Lin (2015); Savickas (2011); Sullivan (1999).

The last two decades of career research have revealed that contemporary careers necessitate attitudes and methods that are adaptive, proactive and self-managed in order to cope with the amplified uncertainty, mobility and boundarylessness of work (Gubler *et al.*, 2014; Waterset *al.*, 2014). The changing pattern of individuals' career attitudes is partly due to economic factors and a stronger motivation by employees to build their career capacity (Briscoe *et al.*, 2011; Sullivan,

2010; Sullivan & Baruch, 2009). The change from traditional careers enables employees to fulfil personal aspirations rather than wait for their organisations to give them opportunities to advance. Contemporary careers have challenged traditional career models, leading to new conceptions that better capture emergent career orientations (Clarke, 2009). Donohue (2014) and Kaspi-Baruch (2015) also asserted that changes in organisational contexts, such as employers increasing efficiency by cutting employees off and threatening job stability, increase employees' proactive involvement in career management and responsibility for their own careers.

The literature suggests two perspectives that appropriately examine new career attitudes, which make up the boundaryless and the protean career theories (Briscoe *et al.*, 2006; Briscoe & Finkelstein, 2009; Gubler, *et al.*, 2014; Porter, Woo & Tak, 2015).

2.2.2 The boundaryless career

A boundaryless career refers to a career that transcends boundaries (Rodrigues *et al.*, 2015; Verbruggen, 2012). Shaffer, Kraimer, Chen and Bolino (2012) define a boundaryless career as a career that moves across the boundaries of separate employers. In a boundaryless career, individuals move from job to job, organisation to organisation, beyond physical boundaries (Clarke, 2009; Uyet *et al.*, 2015). The boundaryless career orientation is composed of two dimensions, namely physical mobility and psychological mobility (Briscoe & Finkelstein, 2009; Sullivan & Arthur, 2006).

Physical mobility refers to when an employee literally moves across the boundaries of a job, occupation, organisation and country (Okurame & Fabunmi, 2014). According to Okurame and Fabunmi (2014) physical mobility defines an individual's desire to remain with a single organisation or preference for a career in different organisations. Individuals who prefer physical mobility are not inclined towards the predictability that comes with working continuously for the same organisation (Okurame & Fabunmi, 2014). Such individuals consider looking for employment opportunities somewhere else as an advantage compared to staying in the same organisation where they are well-known (Briscoe *et al.*, 2006; Briscoe *et al.*, 2012; O'Shea, Monaghan & Ritchie, 2014). Individuals who are physically mobile are driven by a quest for knowledge, personal growth and the desire to take advantage of more favourable benefits elsewhere (Briscoe *et al.*, 2006; Okurame & Fabunmi, 2014, Sullivan & Arthur, 2006). The physical mobility dimension is therefore a yardstick to measure an employee's level of

commitment to an organisation and such employees are more likely to be dissatisfied with their jobs and careers (Okurame & Fabunmi, 2014; O'Shea *et al.*, 2014; Verbruggen, 2012).

Psychological mobility refers to boundaries of a psychological nature which individuals do not physically cross but which exist only in the mind of the career actor (Briscoe *et al.*, 2006; Sullivan & Arthur, 2006). Employees who prefer psychological mobility tend to view themselves as valuable to the external labour market, are more likely to engage in job searches, and are more likely to be satisfied with their jobs and careers (Briscoe *et al.*, 2012; McArdle, Waters, Briscoe & Hall, 2007; Vansteenkiste, Verbruggen & Sels, 2013; Verbruggen, 2012). Such individuals enjoy working on projects with people across many organisations and feel enthusiastic about engaging in new experiences and situations beyond their own employing organisation (Okurame & Fabunmi, 2014; Uy *et al.*, 2015). Psychological mobility enhances an employee's knowledge and skills because it affords access to other people's capacity beyond an employing organisation (Okurame & Fabunmi, 2014). Psychological mobility is more suitable for jobs that draw strength from outside a current employer and careers that are sustained by external networks (Feldman and Ng, 2007). The implication is that under psychological mobility, the yardstick for assessing success is personal; therefore the decision of success or failure lies with the individual (Okurame & Fabunmi, 2014). According to Okurame and Fabunmi (2014) individuals who believe in psychological mobility are generally more comfortable with maintaining work relationships across organisations and in seeking more beneficial opportunities elsewhere.

There are different views on the effects of boundaryless careers on employment stability. Briscoe, Hall, and Demuth (2006) view boundaryless careers as a psychological or an individual's general attitude to working across organisational boundaries and suggest that they do not necessarily lead to employment instability. Boundaryless careers enable employees to maintain contacts outside the organisation and continue to value occupational stability (Briscoe & Finkelstein, 2009; Briscoe, Henagan, Burton & Murphy, 2012; Verbruggen, 2012). The other downside of boundaryless careers especially concerning physical mobility is that physical mobility may generate uncertainty, can be highly stressful and is often involuntary (Pringle & Mallon, 2003; Rodrigues & Guest, 2010). Moreover, employees who believe in physical mobility might be less prone to invest in their relationship at work or their internal career development (De Vos, Dewettinck & Buyens, 2009)

Despite the shift from traditional to boundaryless careers, there are indications that a career within a single organisation is still a desirable and viable option for employees (Clarke, 2013). Although there are many benefits of boundaryless careers, it was also found that boundaryless careers may be harmful for the more vulnerable employee groups, such as women, racial minorities, and under-educated people in that they have experienced unequal drops in job stability in recent years (Sullivan, 1999). Colakoglu (2011) reasons that the pursuit of boundary-less careers can support but also hinder individuals' career successes. In a study done by McDonald and Hite (2008), young professionals indicated that career success is more complex than just reaching the highest rank on a particular ladder, adding that it is influenced by various factors. Moreover, Forrier, Sels and Steyn (2009) also found that when cross-boundary moves are made, they are often determined by organisational or labour market factors rather than by career orientation.

A protean career is a career driven by the individual, not the organisation and is characterised by continuous learning and development and psychological success rather than by vertical ascension up the corporate ladder and monetary rewards (McElroy & Weng, 2016). It is a career attitude that refers to an individual's proclivity to enact a career focused on achieving subjective success through autonomous career management (DiRenzo *et al.*, 2015; Supeli & Creed, 2016). A protean career is made up of two dimensions, which are, (1) value-driven predispositions and (2) self-directed career management (DiRenzo *et al.*, 2015; Lin, 2015; Okurame & Fabunmi, 2014).

- (1) *Value-driven attitudes* have been described as the extent to which an individual's internal values serve as a source of direction, standard and benchmark for measuring specific career goals (Briscoe & Hall, 2002; 2006). According to Lin (2015) a value-driven attitude refers to when an individual pursues meaningful career goals guided by values, motives and needs that are aligned with his/her dreams and aspirations. This dimension emphasizes that the values held by the individual are what propel behaviour and not external standards or factors that are extrinsic to the person (Briscoe & Finkelstein, 2009; Lin, 2015). Therefore, the organisation is merely a place where individuals are afforded the opportunity to align their career with their personal values and to express personal values through work (Cabrera, 2009, Lyons *et al.*, 2015).

Individuals who are value driven and prefer career mobility have lower resilience levels which lead to lower career satisfaction (Lyons *et al.*, 2015). As a result, such individuals are likely to not adapt well to their careers, which in turn, may lead to career failure.

- (2) *Self-directedness* is the extent to which an individual is adapted to self-directed career management. It is a self-directed career attitude which is positively related to career planning and perceived employability (DiRenzo *et al.*, 2015). Individuals with self-directed career attitudes perceive themselves as capable of developing a career and are more motivated to engage in their careers (Zhang, Hirschi, Herrmann, Wei, & Zhang, 2015). A self-directedness attitude is about self-reliance and a proactive approach in the self-management of a career by learning the demands of a career on a continuous basis, seeking work challenges and moving on to perform well in a vocation (Briscoe & Hall, 2006; Lin, 2015). This approach makes the individual, rather than the employer, responsible for planning what happens in his/her career (Zhang *et al.*, 2015). Ultimately, career success for such individuals becomes internal and psychological as is reflected in the expressed sense of accomplishment (Cabrera, 2009).

Self-directedness was found to be positively related to career resilience and satisfaction because individuals who take ownership of their own career development always use what is at their disposal to ensure career development and success in the midst of setbacks (Lyons *et al.*, 2015). Moreover, Lyons *et al.* (2015) suggest that such individuals are more resilient in the face of career adversity than those who rely on their organisation to shape their careers.

According to Lin (2015) individuals are moving from an organisational career towards a protean career which reflects the characteristics summarized by Harry (2014) in Table 2.4:

Table 2.4: *The Characteristics of a Protean Career* (Harry, 2014, p. 56)

CHARACTERISTICS OF PROTEAN CAREER
The person and not the organisation manage the career.
A career is a lifelong series of experiences, skills, learning, transitions and identity changes where 'career age' counts and not chronological age.
Development involves continuous learning, is self-directed and relational and is embedded in work 'challenges'.
Development does not necessarily include formal training, retraining or upward mobility.
Success depends on moving from know-how to 'learn-how', job security to employability, organisational careers to protean careers, and from work-self to whole-self.
The organisation provides challenging assignments, developmental relationships, information and other developmental resources.
The ultimate goal is psychological success.

Protean individuals usually have strong protean mind-sets that allow them to work with numerous organisations throughout their careers in transactional relationships, and this allows them to remain employable and valuable to current and future employers (Fugate, 2006; Rothwell & Arnold, 2007; Van der Heijden, 2002; 2006; Vanhercke *et al.*, 2014). Protean talented individuals also identify their career successes based on their personal development and the ability to follow their own dreams as the most important factor (psychological success), which is very different from traditional careers with success defined by financial and hierarchical gains (Briscoe *et al.*, 2006; Hall, 1996; 2004; Sullivan & Baruch, 2009), and control by an organisation or employer (VandeWalle *et al.*, 1999). In a study among German employees, a positive correlation was found between a protean career orientation and career satisfaction, job satisfaction, work engagement and career planning (Herrmann *et al.*, 2015)

A protean career equated to a career mind-set or attitude that enables an individual to make self-directed career development goals and move toward the making of career choices that are based on personal values instead of organisational values (Briscoe & Hall, 2006; Briscoe *et al.*, 2006; DiRenzo *et al.*, 2015). Protean talents also view their career as a series of learning cycles. They attempt to own the freedom and growth that allows them to pursue continuous learning via a

learning-goal-oriented approach. Employability enhances individuals' likelihood of gaining employment and realizing career opportunities, and it increases employees' perceptions of their capability to effectively adapt to numerous work-related changes, which facilitates movement between jobs, both within and between organisations in today's turbulent career environment (Fugate, Kinicki, & Ashforth, 2004; Hall & Mirvis, 1995; McArdle *et al.*, 2007; Van der Heijde & Van der Heijden, 2006).

Briscoe and Hall (2006) stress that the combination of value-driven career orientation and self-directed career management is considered to impart a 'full' protean career orientation. The combination of being both value-driven and having a self-directed attitude may suggest that an employee has a certain 'level' of protean career orientation. Protean individuals with low levels of value-driven and self-directed characteristics are considered dependent and neither follows their own principles nor manages their careers themselves. Protean individuals may have reactive profiles that allow them to manage their careers, but they do not use their internal values for guidance. They will guide their career by external values (e.g., organisation values) rather than by their internal values. On the other hand, some protean individuals follow their personal principles, but do not have self-directed attitudes. These are considered to have rigid career orientations, which mean they are not able to fully shape their own career.

Theoretical work examining protean career attitudes suggests a direct impact on subjective career outcomes (Hall, 2004; Herrmann *et al.*, 2015). Employability suggested by Boudreau *et al.* (2001) is an increasingly relevant indicator to measure antecedent-based subjective career outcomes and success.

2.2.3 TVET students as career agents

Due to career evolution in the 21st century from traditional to boundaryless careers, students in TVET colleges should act as career agents for them to succeed in their careers. The career construction theory asserts that individuals construct their careers by imposing meaning on their vocational behaviour and occupational experiences instead of a sequence of positions that a person would have occupied from school until retirement (Savickas, 2005; 2013). The career construction theory implies that individuals should take responsibility for their careers rather than depending on organisation for career development (Zhang *et al.*, 2015).

As already indicated, boundaryless careers emphasize the concept of self-management in order for employees to develop their skills to enhance employability (DiRenzo *et al.*, 2015). Individuals' employability is closely linked with their agency to proactively manage their careers beyond the boundaries of the organisation (Hall, 2013; McArdle, Waters, Briscoe & Hall, 2007; Sullivan, 2013). In order to remain employable, individuals must have the capacity not only to adapt within their respective occupations to keep up with advances in technology but also to adapt between occupations and different life roles at a rate that is unprecedented compared to previous generations (Del Corso, 2013). A protean career is positively related to a broad range of outcomes, including career growth, career self-management behaviours, and subjective career success (De Vos & Soens, 2008; Waters *et al.*, 2014). According to Herrmann *et al.* (2015) and DiRenzo *et al.* (2015) a self-managed career is associated with a higher level of career satisfaction and a greater work-life balance.

Lyons *et al.* (2015) found that individuals who are self-directed in their careers, who demonstrate agency and personal accountability for career success, are more resilient and more satisfied in their careers. Furthermore, individuals who take ownership of their careers are more likely to have options to restore career development and success in the midst of career trajectories rather than see themselves as victims of their career circumstances (Lyons *et al.*, 2015).

Therefore, students in TVET colleges should also take responsibility for their own careers by developing their hardiness in order to easily adapt to their careers which in turn will lead to career success. Lyons *et al.*'s (2015) findings suggest that individuals who take ownership of their own career developments are more resilient in the face of career adversity than those who rely on their organisations to guide their career paths. As a result, individuals need to develop relevant psychological strengths that will make them more resilient in the face of career setbacks, which in turn leads to career success (Bezuidenhout, 2011; Savickas, 1997; 2011; Savickas & Porfeli, 2012).

2.3 CHAPTER SUMMARY

It is clear that careers are evolving in the 21st century from traditional linear organisational careers to boundaryless careers that are self-directed and value-driven. The developments in the career context have influenced the skills and competencies of individuals wishing to enter the world of work. Higher qualifications or technical skills are no longer enough to secure a job. If individuals

are to acquire the necessary psychological attributes in order to deal with the current career environment, they need to take responsibility for managing their careers as effectively as possible. They should not wait for their organisations to develop their careers but take the initiatives which will enhance their career advancement.

Herewith specific **research aim 1** (To conceptualise the career development and career support practices of students in the 21st century) has been achieved.

Chapter 3 will focus on **research aim 2** (To conceptualise and explain the constructs; hardiness and career adaptability from theoretical perspective models in the literature).

CHAPTER 3: HARDINESS AND CAREER ADAPTABILITY

KEYWORDS

Hardiness, commitment, control, challenge, career adaptability, concern, curiosity, confidence, resilience

This chapter focuses on conceptualising the construct of hardiness and career adaptability which is the second literature review aim. Furthermore, demographical variables will be explored to determine their influence on hardiness and career adaptability. The relevant theoretical models will also be discussed. The chapter concludes with an integration of the theoretical relationship between hardiness and career adaptability.

3.1 HARDINESS

The concept 'hardiness' will be discussed in the sections below. The concept will be conceptualised and the theoretical models then explained. The variables influencing the development of hardiness will also be discussed.

3.1.1 Conceptualisation of hardiness

Hardiness is viewed as a resiliency-related behavioural capacity in which individuals possess a collection of personality characteristics that function as resistance resources during the encounter with stressful life events (Abdollahi, Talib, Yaccob, & Ishmail, 2015; Kobasa, Maddi, & Kahn, 1982; Kobasa & Puccetti, 1983; Maddi & Khoshaba, 2005; Latif, 2010). It is a set of attitudes or beliefs that an individual possesses in interaction with the world that provides the courage and motivation to turn stressful circumstances from potential disaster into opportunities (Maddi, 1998; 2002; Maddi & Kobasa, 1984; Maddi, Harvey, Khoshaba, Fazel, & Resurreccion, 2012). Hardy individuals have a high sense of life and work commitment, a greater feeling of control over what happens to them, and are more open to change and challenges in life (Bartone, Eid, Johnsen, Laberg, & Snook, 2009).

Hardy individuals tend to interpret stressful and difficult circumstances as normal features of an existence which is overall interesting and worthwhile (Huang, 2015; Maddi, 2002; Maddi &

Khoshaba, 2005). Therefore, they are regarded as optimistic individuals who have a positive mindset, as a result, they focus on the silver lining of any situation rather impossibilities (Maddi & Khoshaba, 2005). Hardiness is regarded as one of the most important factors that protect one's physical and psychological health when faced with adverse situations and is becoming one of the fundamental ingredients of personal wellbeing (Lyons, Schweitzer, & Ng, 2015). Individuals with a hardy personality are unrestricted by, and cope effectively well, with stressful situations which give them a great sense of self-determination and self-efficacy (Huang, 2015). According to Harry (2014) the ability to manage emotions is associated with problem solving and such individuals control their feelings and behaviour by exercising commitment and adapting to changing circumstances.

Resilience is related to the construct of hardiness and is explained as the process of working through difficult challenges and the outcome of quicker recovery combined with an increased capacity to cope with pressure (Cooper, Flint-Taylor, Davda, & Cooper, 2014; Flint-Taylor & Pearn, 2013; Reich, Zautra, & Hall, 2010). Zautra, Hall and Murray, (2010) define resilience as an outcome of successful adaptation to adversity whereas Cooper *et al.* (2013) define resilience as the ability to bounce back from setbacks and to keep going in the face of tough demands and difficult circumstances, including the enduring strength that increases from coping well with challenging or stressful events. Resiliency is conceptualized as a tendency to remain strong during hardship (Kauten, Barry & Leachman, 2013). A hardy-resilient style is a generalised way of functioning that includes a strong sense of commitment, a belief that one can control or at least influence outcomes, an adventurous, exploring approach to living (challenge), and a positive future orientation (Latif, 2010). Individuals with a hardy-resilient style have a strong future orientation, that is, a tendency to look to the future while at the same time learning from the past (Ferreira, 2012; Latif, 2010).

The concept of hardiness was conceptualised in this section. A number of theoretical models and theories will now be discussed.

3.1.2 Theoretical model of hardiness

Hardiness was first described by Kobasa (1979a) as a personality style or pattern associated with continued good health and performance under stress. The hardiness construct examines the reasons why some individuals, even under stressful conditions, are able to deal with problems,

and why some individuals in non-stressful conditions are not able to deal with problems (Abdollahi, *et al.*, 2015). Mc Vicar (2003) regards hardiness as one of the protective factors that regulates individuals' differences in perception, response and their ability to cope with stressful conditions. Hardiness originates from existential psychology and it is a combination of action, cognition and emotion targeted at the enrichment of life through development and survival (Coetzee & Harry, 2014; Ferreira, 2012; Kobasa, Maddi, & Courington, 1981; Lambert & Lambert, 1999; Maddi, 1998; 2002; 2006; Maddi *et al.*, 2012 Nunley, 2002; Sussman, 2002). Research studies conducted on a variety of occupational groups have found that hardiness functions as a significant moderator or buffer in the stress-health relation (Contrada & Type, 1989; Kobasa *et al.*, 1982; Maddi & Kobasa, 1984; Roth *et al.*, 1989; Wiebe, 1991).

3.1.2.1 *The three C's of hardiness*

The hardiness construct consists of three attitudes, namely commitment, control and challenge. Commitment enables individuals to view potentially stressful situations as meaningful and interesting, see stressors as changeable (control) and regard change as a normal feature of life (challenge) (Kobasa *et al.*, 1982).

a) *Commitment*

Commitment is defined as an individual's dedication to activities such as work, sport, academic, religion or hobby that is regarded as meaningful and interesting to that individual (Abdollahi *et al.*, 2015; Huang, 2015). Commitment is the drive that enables an individual to stay involved with people and events rather than living in isolation and alienation (Maddi, Harvey, Khoshaba, Fazel & Resurreccion, 2012).

b) *Control*

Control refers to individuals' beliefs that they can influence their life experiences (Abdollahi *et al.*, 2015; Huang, 2015). Individuals that are strongly in control strive to have influence on outcomes rather than being powerless and passive (Maddi *et al.*, 2012). Hardy control enhances the motivation of an individual to engage in effortful coping because it influences him or her to view stressors as changeable (Maddi, 2002; Maddi, & Khoshaba, 1984).

c) *Challenge*

Challenge is defined as an individual's perception of the world as an opportunity to develop, as well as being a good learner (Huang, 2015; Kobasa *et al.*, 1982). Individuals who are strong in challenge see stresses as normal and an opportunity to grow rather than withdrawing from stressful circumstances (Abdollahi *et al.*, 2015; Maddi *et al.*, 2012).

According to Sheard and Golby (2007), the behavioural manifestations of the three hardiness attitudes (commitment, control, and challenge) can be extended to the higher education environment (see Figure. 1.1 in chapter 1). They state that the moderating effect of commitment on academic performance can be demonstrated by individuals becoming deeply involved in their studies, as a way to turn whatever they are experiencing into something interesting, worthwhile, and important. Individuals who have a strong commitment attitude prefer to get involved rather than withdraw because they see this as the best way to turn whatever they are experiencing into something that seems interesting and important (Maddi *et al.*, 2012). Such an attitude is likely to facilitate diligence and a willingness to expend extra time and effort to meet academic goals. Individuals who are highly in control ought to be able to manage their studies; for example, demonstrating good time management, prioritising those activities deemed most contributory to academic success, and taking responsibility for their own learning and development. The attitudes reflecting challenge should moderate academic performance by affording students the opportunity to appraise potentially stressful situations as exciting and stimulating rather than threatening (Sheard & Golby, 2007). This should upsurge the likelihood of individuals accepting the difficulties associated with fulfilling academic course requirements and engaging in the process of working toward a degree, thus facilitating the positive process of growth through learning (Maddi, 2006).

The hardiness attitudes (commitment, control, and challenge) are all required to provide the needed courage and motivation for an individual to turn stressful circumstances to his/her advantage as none of them is sufficient by itself (Ferreira, 2012; Latif, 2010; Maddi, 2004). For example, individuals high on control but simultaneously low in commitment and challenge would be egotistical and susceptible to seeing themselves as better than others and having nothing more to learn. Therefore, it is the combination of commitment, control and challenge that constitutes existential courage and motivation. In order for an individual to tolerate and resolve stressful circumstances, one should see them as natural developmental pressures rather than

setbacks (challenge), resolvable rather than unmanageable (control) and worth investing in rather than to be avoided (commitment) (Maddi, 2004; Maddi *et al*, 2012). Figure 3.1 summarises the overall results of a 12-year longitudinal study on how to deal with stressful circumstances (Maddi, 2004).

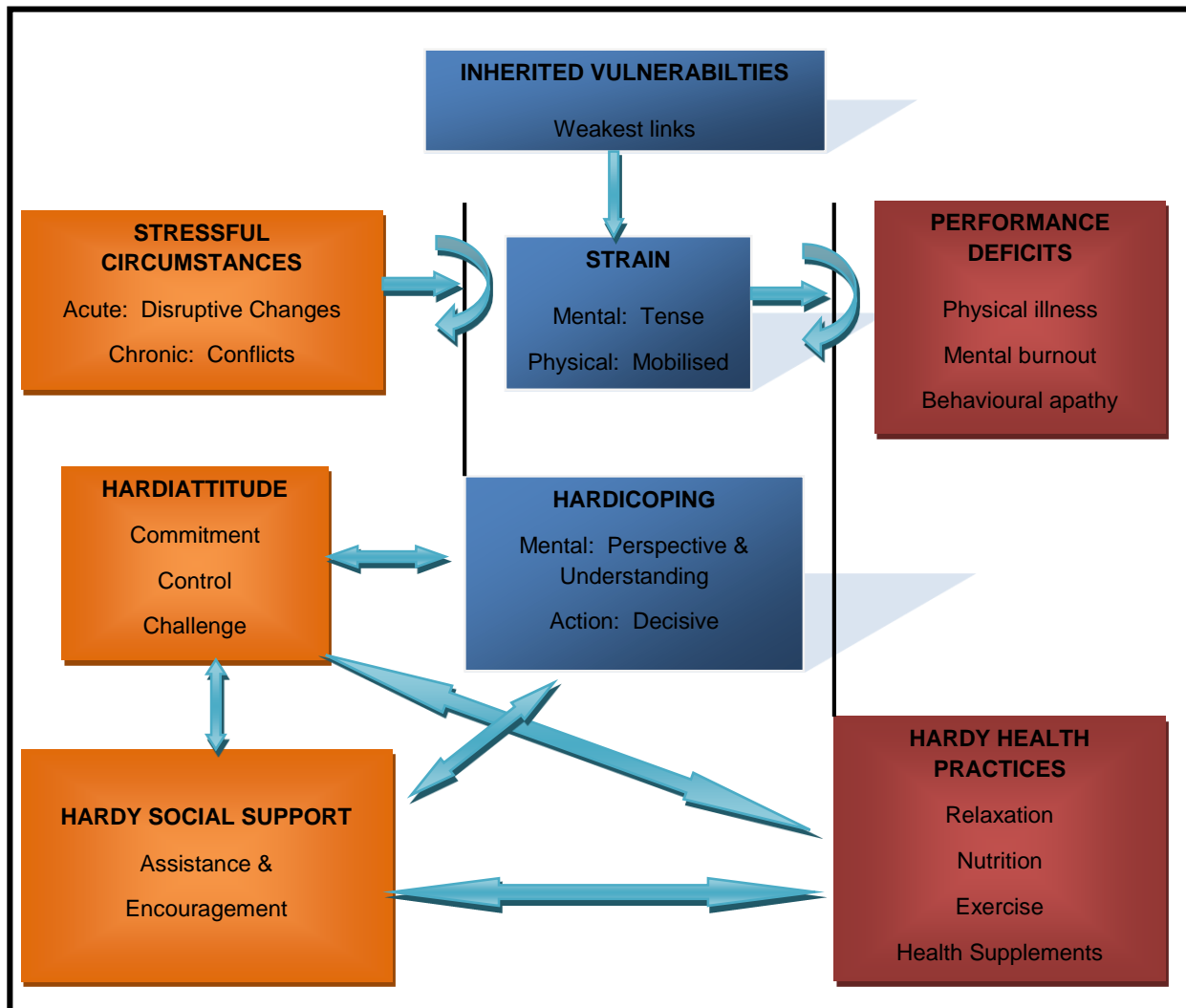


Figure 3.1: The Hardiness Model (Maddi, 2004, p.288)

The hardiness model indicates that individuals high in hardy attitude display a greater ability of coping with stressful situations and they are able to turn them from potential disasters into opportunities (Maddi, 2004; Maddi *et al*, 2012). Figure 3.1 indicates that when stressful circumstances (acute and chronic) increase, this leads to a strain which can be mental or physical. If the situation is not dealt with accordingly, the strain affects performance in the form of physical illness, mental burnout and behavioural apathy. However, the process will not unfold in a similar

manner for individuals high in hardiness. A hardy attitude leads to hardy coping which enables individuals to see stressful life events as an opportunity for growth. Furthermore, a hardy attitude leads to health practices which include; eating healthily, exercising and relaxation. As a result, under stress, a hardy attitude provides the strength and motivation to do the hard work of transformational coping, supportive social interactions and facilitative self-care (Ferreira, 2012; Latif, 2010; Zhang, 2011).

3.1.3 Variables influencing hardiness development

The demographical variables that may influence the development of hardiness will now be discussed.

3.1.3.1 Age

According to Abdollahi *et al.* (2015) hardiness provides a sense of resilience during difficult situations and decreased symptoms of suicidal ideation among adolescents. In a research by Harry (2014) young participants scored significantly higher on hardy commitment and hardy control as compared to their older counterparts. The finding by Harry (2014) confirms that of Ferreira (2012) as young participants also scored higher on hardiness which suggests higher levels of commitment to the organisation. Also, the research conducted by Latif (2010) shows higher levels of hardiness in the early careers of call centre agents, which suggests that young people can handle their own destiny and maintain control over it. Contrary to other researchers, a study by Creed, Conlon and Dhaliwal (2013) and Sheard (2009) found no significant interactions were observed between age and total hardiness. Flint-Taylor, Davda, and Cooper (2014) found that mental toughness generally increased with age as resilience develops through experience.

3.1.3.2 Gender

Research conducted by Coetzee and Harry (2015); Sheard (2009) has found that female participants achieved significantly higher scores than the males on hardy commitment and had a stronger sense of managing their emotions. However, in overall, the research found no significant relationship between gender and hardiness in the call centre environment (Coetzee & Harry, 2015). The finding by Coetzee and Harry corroborate with that of Creed *et al.*, (2013) that gender is not correlated to hardiness. The findings of Coetzee and Harry (2015) are contrary to that of

Latif (2010) who found that males showed higher levels of hardiness than females in the call centre environment. The finding by Latif, 2010 is in line with that of Abdollahi *et al.* (2015); Ferreira (2012); Nezhad and Besharat (2010) that males scored higher on the hardiness dimension of commitment to careers than females, which suggests that males are more committed to their careers than females.

3.1.3.3 *Race*

According to Abdollahi *et al.* (2015) the moderating effect of race on hardiness is not supported. In a research by Harry (2014) race did not show any significant effect on hardiness. However, in research conducted by Ferreira (2012) and Latif (2010), it was found that black women revealed higher levels on the hardiness dimension of challenge, which suggests that they are motivated and thrive on challenge such that they become catalysts in their environment and will be more committed to the organisation.

3.1.3.4 *Marital status*

The research by Harry (2014) found that marital status did not have a significant effect on hardiness. Furthermore, research conducted by Ferreira (2012) showed that widowed participants scored lower on hardiness than married participants while single participants scored higher on hardiness than their married counterparts. However, marital status did not reveal a significant impact on hardiness.

Table 3.1 below summarizes the variables influencing hardiness development.

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Table 3.1: *Summary of Demographical Variables that Influence Hardiness Development*

Demographical variables	Core-conclusion
Age	There are conflicting views on the influence of age and hardiness. However, many researchers found that younger participants scored higher on hardiness which suggests that they can handle and maintain their own destiny (Harry, 2014; Ferreira, 2012). Creed <i>et al.</i> , 2013; Flint-Taylor <i>et al.</i> (2015) found no significant interactions between age and total hardiness.
Gender	There are conflicting views on the influence of gender and hardiness. Coetzee and Harry (2015) found no significant relationship between gender and hardiness in the call centre environment. However, males tend to show higher levels of hardiness commitment in their careers than women. (Abdollahi <i>et al.</i> , 2015; Coetzee & Harry, 2015; Ferreira, 2012; Latif, 2010)
Race	Black women showed higher levels of hardiness than the other race groups but race does not have a significant impact on hardiness (Ferreira, 2012; Harry, 2014; Latif, 2010)
Marital status	Married individuals scored higher on hardiness than widowed and single participants (Ferreira, 2012; Harry, 2014)

3.2 CAREER ADAPTABILITY

The concept of career adaptability will be discussed in the following sections. The concept will be conceptualised and the theoretical models explained. The variables influencing development career adaptability and the impact on retention will also be discussed.

3.2.1 Conceptualisation of career adaptability

Career adaptability as a core construct in the field of vocational psychology and in career construction theory refers to a set of coping resources and readiness responses that individuals might activate and use in order to plan, explore, and decide about career-related future possibilities (Brown & Lent, 2016; Savickas, 1997; 2005; Savickas & Porfeli, 2012; Super & Knasel, 1981). Career adaptability is defined as a self-regulatory psychosocial resource that individuals need to successfully manage current and anticipated career transitions and adjustments (Savickas, 2013; Yang, Guan, Lai, She & Lockwood, 2015). It is an adaptive and resiliency resource that can enable and assist individuals to adjust, to cope and to fit into a new dynamic and stressful world of work (Guan *et al.*, 2015). Career adaptability is also explained as self-regulatory strategies in terms of which individuals, using the developmental dimensions of self and environmental exploration, career planning and decision-making, look at the opportunities that are available and make viable choices (Savickas & Porfeli, 2012). Therefore, it is a multidimensional construct that involves a combination of the attitudes, competencies and behaviours that individuals use in fitting themselves to work that suits them (Savickas, 2013). Thus, career adaptability resides at the person–environment intersection and reflects individuals' resources for managing career tasks and challenges (Zacher, 2014a). Broadly speaking, adaptability reflects the ability to adjust to change, especially in unpredictable and stressful situations (Coetzee & Harry, 2014).

The concept of career adaptability was initially explained by Super and Knasel (1981) as a vital construct in an individual's career development process. It has since been recommended as a key competency in career success (O'Connell, McNeely, & Hall, 2008; Savickas, 1994). Introduced by Savickas (1997) as a substitute for Super's (1955) idea of career maturity, adaptability signifies a significant skill in an individual's ability to steer the career decision-making process and the working world (Duffy, 2010; Savickas, 1997).

Career adaptability is a hierarchical construct comprised of four dimensions: concern, control, curiosity, and confidence which are discussed below:

a) Concern

Concern helps an individual to anticipate future career developments (Spurk, Kauffeld, Meinecke, & Ebner, 2016). Career concern is the ability to be aware of and to plan for a vocational future (Nilforooshan & Salimi, 2016; Savickas, 2005; 2013). It is a sense of optimism about the future and demonstrates a planful attitude of what an individual wants to accomplish (Hartung, 2013). Being concerned about one's future requires one to be aware, involved and prepared (Savickas, 2013).

b) Control

Career control is the subjective feeling of self-governing and decisiveness concerning a vocational future (Savickas, 2005; 2013). Therefore it is about an individual taking responsibility to construct his/her career (Nilforooshan & Salimi, 2016; Savickas & Porfelli, 2012). Challenges with career control can manifest as career indecision and individuals with low sense of career control may tend to struggle with uncertainty and indecisiveness about their career choice. Demonstrating personal control over one's career enables an individual to better embrace uncertainty and concomitant anxieties (Del Corso, 2013).

c) Curiosity

Career curiosity is the tendency to explore one's environment for possible opportunities and their requirements (Hartung, 2013; Nilforooshan & Salimi, 2016; Savickas & Porfelli, 2012). Adapting to changing contexts or situations, individuals must display an inquisitive attitude and engage in exploration by experimenting, taking risks and inquiring (Savickas, 2013).

d) Confidence

Career confidence refers to an individual's belief about his/her ability to solve concrete career problems and to succeed (Del Corso, 2013; Hartung, 2013; Savickas, 2013; Savickas & Porfelli, 2012). Career confidence is the extent to which and individual has believes in his/her ability to

make and execute wise career decisions and realistic occupational choices (Nilforooshan & Salimi, 2016). Career inhibition as opposed to career confidence happens when individuals feel they are unable to work through occupational difficulties (Savickas, 2013). Career confidence is demonstrated by how individuals deal with the numerous stressors they may encounter throughout their lifetime along the career journey, for example sudden unemployment, lack of available jobs, health problems, family struggles, unexpected workplace challenges or pressure to learn new skills (Del Corso, 2013).

The four domains of career adaptability are regarded as important vocational developmental tasks, which entail a primary adaptive goal that when accomplished, builds a foundation for career success, future adaptability and growth (Hartung, 2013). Figure 3.2 illustrates the four dimensions of career adaptability.

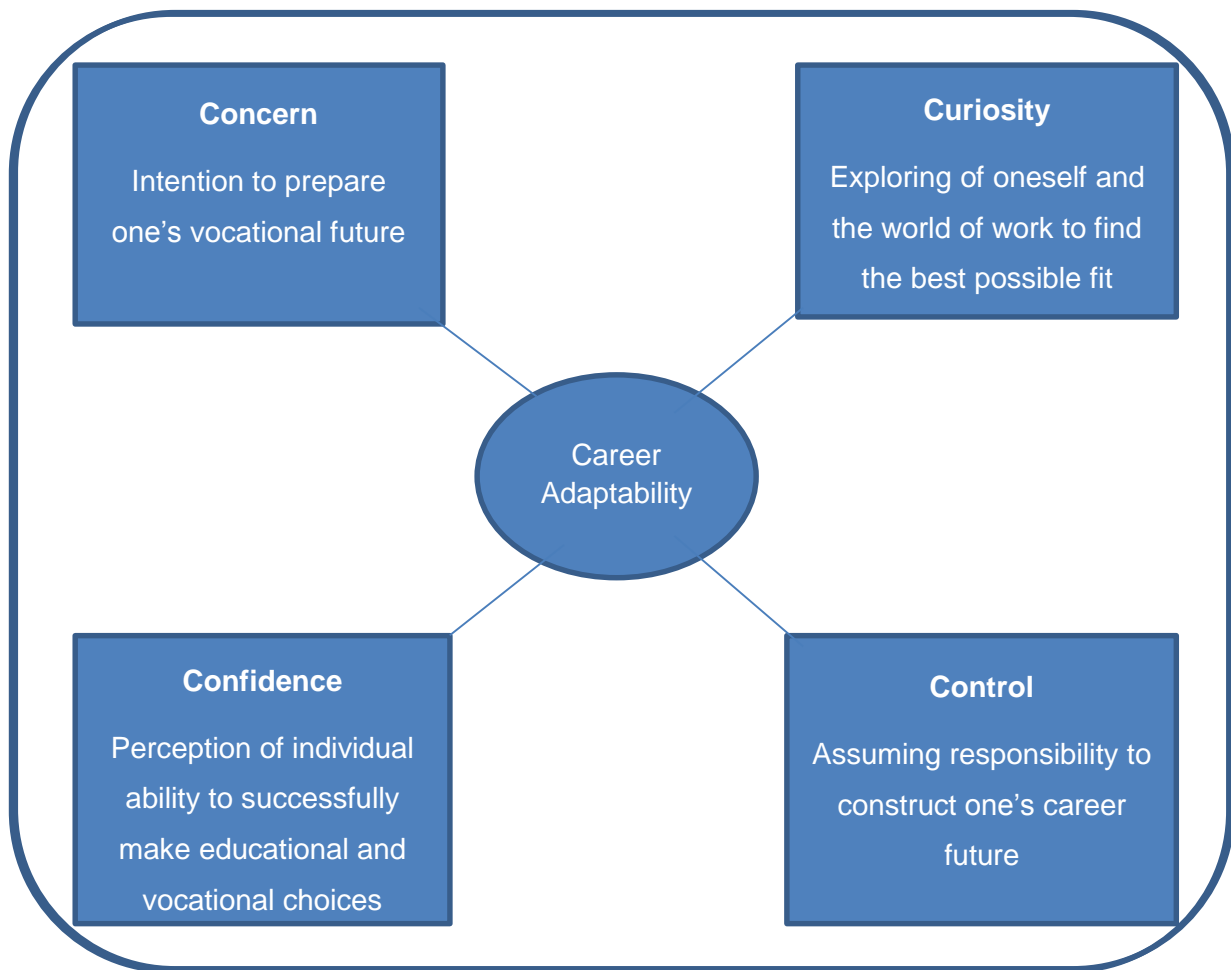


Figure 3.2: The Four Dimensions of Career Adaptability

Research has shown that career adaptability is positively related to career success, job performance evaluations, and job career satisfaction (Guan, Deng, Sun, Wang, Cai, & Ye, 2013; Hirschi, 2009; Koen, Klehe & Van Vianen, 2012; Maggiori, Johnston, Krings, Massoudi & Rossier, 2013; Ohme & Zacher, 2015; Zacher, 2014a; 2015; Zacher & Griffin, 2015). Moreover, research has also consistently shown that career adaptability is positively associated with job search self-efficacy and career optimism (Guan *et al.*, 2013; Tolentino *et al.*, 2014). Zacher (2014a) posits that career adaptability is positively related to relevant psychological resources such as emotional stability and core self-evaluations. Thus when vocational tasks, occupational transitions, or work traumas occur, the adaptable individual is conceptualized as (a) becoming concerned about the vocational future, (b) taking control or trying to prepare for one's vocational future, (c) displaying curiosity by exploring possible selves and future scenarios, and (d) strengthening the confidence to pursue one's aspirations (Savickas & Porfeli, 2012).

The concept of career adaptability was conceptualised in this section. A number of theoretical models and theories will now be discussed.

3.2.2 Theoretical model of career adaptability

The following theory will be discussed in this section: Savickas' career construction theory.

3.2.2.1 *Savickas' career construction theory*

Career construction is a theory of vocational behaviour and a counselling system developed by Savickas (2002; 2005) and views a person as holistic, self-directed, self-organising and self-making and being capable of using work to make life more meaningful to others (Hartung, 2013; Savickas, 2002; 2011; 2013). Career construction theory posits that higher levels of career adaptation are achieved by individuals who are willing (adaptive readiness) and able (adaptability resources) to have successful adaptive responses to the different vocational development tasks integral to different career stages: growth, exploration, establishment, management, and disengagement (Guan *et al.*, 2016)

The theory conceptualises human development as driven by adaptation to a social environment with the goal of person–environment integration (Savickas, 2005). The theory takes a contextual and cultural perspective on social adaptation and niche-making. The adaptation of individuals to social life implicates all core and peripheral roles. As they design their lives, individuals must adapt to expectations so that they work, play, and develop relationships (Savickas *et al.*, 2009). The career construction model of adaptation concentrates on only the work role in that it addresses social expectations that individuals prepare for, enter, and participate in the work role and subsequently deal with career transitions between occupational positions. From this perspective, an occupation is a mechanism of social integration or connection, one that offers a strategy for sustaining an individual in society.

The career construction theory explains the interpretive and interpersonal processes through which individuals construct themselves, impose direction on their vocational behaviour and discover meaning in their careers (Savickas, 1997; 2005; 2013). According to Savickas (2005; 2013) the career construction theory asserts that individuals construct their careers by imposing

meaning on their vocational behaviour and occupational experiences instead of their career being just a sequence of positions that a person has occupied from school until retirement. Thus the career construction theory states that a career does not unfold but is constructed by individuals as they make choices that express their self-concepts and substantiate their goals in the social reality of work roles (Savickas, 2013). The career construction theory states that individuals with high levels of career adaptability possess greater competence and more psychosocial resources which enable them to adapt to and manage work- and career-related demands and changes (Savickas, 2013). Successful adaptation, in turn, should positively impact their task and career performance, as well as their job and career satisfaction (Chan & Mai, 2015; Ohme & Zacher, 2015; Zacher, 2014a).

The career construction theory incorporates into one the three classic segments of the career theory: (1) differential, (2) developmental, (3) the dynamics, therefore, it represents the what, how and why of vocational behaviour (Savickas, 2005). In order to accomplish its goals, the career construction theory addresses how people build their careers through personal constructivism and social constructivism (Savickas, 2013). It asserts that people do not construct reality but the representation of reality. The theory also view careers from a conceptualist perspective, which implies that one conceptualises development as driven by adaptation to environment rather than by maturation of inner structures. The three foundational components underpinning the career construction theory were originally expressed in terms of life themes, vocational personality and career adaptability (Savickas, 2005). However, Savickas (2013) explains the career construction theory from social constructionism as a metatheory, the three core components being; self as actor, self as agent and self as author. Thus the emphasis is on self-construction.

a) Self-Making

The concept of self-making is an interpersonal process of self-conscious reflection through language, as words provide a resource for living that enables thinking and meaning making (Savickas, 2013). In essence, it is through language that that we subjectively reflect on our actions and think about who we want to become and what work we want to do. Although we talk our own selves into existence, we need more than language for self-construction. We need to reflect on our interpersonal experiences because self is built from the outside rather than inside (Savickas, 2011; 2013). Therefore, we need each other in order to make sense of ourselves and the world we live in.

b) Perspectives of self-making

The career construction theory asserts that individuals through their actions in the family compose a social role as an actor, then adapt this role for use in the theatres of school and community and eventually author an autobiographical story to explain the continuity and coherence occupational experiences (Savickas, 2013). Thus the career construction theory focuses on the behaviour of individuals as actors, striving as agents, and explanations as authors. The three core components of the career construction theory are explained below:

Self as actor

An individual's personality and reputation is constructed by the social context especially the family environment (Savickas, 2013). The career construction theory views reputation as residing in a person's social network (Craig, 2009). Therefore, an individual's reputation or trait ascription is dependent on the people he/she socializes with and is also evident in the network of coworkers in their occupation.

According to the introjection guides and incorporating models, actors construct self by internalizing the family drama and social world that they experience (Savickas, 2013). Thus an actor forms a character in an environment of people, modelling self upon objects in the world, starting with one's parents. For example, toddlers understand the world of the family and get initiated into the cultural practices that surround them and ultimately become actors in the family drama. Based on the family environment and social interaction, they formulate their character which they portray in their neighborhood and schools. The same character also helps to shape the individual's career theme (Savickas, 2013).

Furthermore, when people align their traits, such as vocational interests, abilities and personality (Usinger & Smith, 2010) with corresponding job characteristics and requirements they succeed as actors who fit themselves into work roles (Hartung, 2013). The attitudes or beliefs of family members, co-workers, supervisors, clients, organisations, government and media all impact and influence individuals' attitudes and beliefs with respect to career-related decisions (Del Corso, 2011). For example, if family members or co-workers do not believe in an individual's ability to do a job, that individual may experience a lack of career confidence and may avoid certain career

paths. This example demonstrates how self-efficacy or confidence (as a social construct) does not reside within the individual alone, but is rather formed by others.

Self as agent

The sense of self as agent focuses on the establishment of goals that one strives for, then projects and eventually becomes a career (Savickas, 2013). Agency develops through movement into and out of educational and vocational positions. According to Savickas (2013) the actor manifests the self in choosing an occupation and participating in a niche. When a person makes a career choice, they are expressing the kind of a person they are; and they seek to realise their potential and preserve self-esteem.

Self as author

As individuals learn more about themselves, they integrate their actions and agency into a unique identity supported by a life story (Savickas, 2013). They pattern their constellation of goals and purposive projects into a logical and credible story. McAdams (1995; 2006) used the terms storied-self or narrative identity to explain how individuals come to understand the self by the stories they tell to describe themselves (Pals, 2006). The narrative is helpful to explain how individuals form their identity through story, become the main protagonist in their life story, and how they can construct their lives in a meaningful way based on the life themes that permeate their story.

Every stage or work experience forms a short story within a person's life narrative. How one adapts within a specific episode, life experience, or occupation depends upon his/her problem-solving strategies. These strategies have been identified by Savickas (2005; 2008 and Savickas *et al.*, 2009) as the ABC's of career adaptability that include coping attitudes, beliefs and competencies. These attitudes, beliefs, and competencies influence how concerned a person is about their career, whether they believe they have control over their career, whether they are curious as to what work roles are out there, and how confident they are to complete those tasks. As already stated, the career construction theory defines four global dimensions of career adaptability. The dimensions represent the general adaptability resources and strategies that individuals use to manage critical tasks, transitions and traumas as they construct their careers. Table 3.2 provides the various aspects of the four dimensions of career adaptability.

Table 3.2: *Career Adaptability Dimensions (Savickas, 2013, p.158)*

Adaptability dimension	Attitudes & Beliefs	Competence	Coping Behaviours	Career Problem
Concern	Planful	Planning	Aware Involved Preparatory	Indifference
Control	Decisive	Decision making	Assertive Discipline Willful	Indecision
Curiosity	Inquisitive	Exploring	Experimenting Risk-taking Inquiring	Unrealism
Confidence	Efficacious	Problem solving	Persistent Striving Industrious	Inhibition

3.2.3 Variables influencing career adaptability development

Limited research was found on the influence of demographical details such as race on career adaptability, which emphasises the need for further research to obtain a better understanding of the influence of these biographical characteristics. According to Zacher (2014a), hardly any research so far has examined the effects of individual differences on changes in overall career adaptability and career adaptability dimensions over time.

The demographical variables that may influence the development of career adaptability will now be discussed.

3.2.3.1 Age

There are conflicting statements that were found during the literature review, regarding career adaptability and age. In a recent study by Ismail, Ferreira and Coetzee (2016) found that a significant positive relationship exists between a young adult's (in the school to work transition phase) self-esteem, gradueness skills and his or her career adaptability. They suggest that young adults in the school-to-work transition phase with a high level of self-esteem are better equipped to enhance their career adaptability (Ismail *et al.*, 2016).

Zacher (2015) found that older individuals experience greater increases in control and confidence over time than younger individuals. Zacher (2014a) found that a concern was negatively correlated with age while control was positively correlated with age. Researchers such as Rostami, Abedi, Bagnhan and Savickas (2012) found that motivation to change decreases with age and that middle-aged or younger individuals should be more adaptable than the elderly. Peeters and Emmerick (2008) reported similar findings in their research and stated that the adaptation to change in work settings may become more difficult with age. These researchers explain that older adults may have negative attitudes toward the developmental experiences that are required in order to become adaptable, because such experiences may be taking place at an unexpected time in their lives (Rostami *et al.*, 2012). The rationale behind the assumption of a negative age-performance relationship was that with increased age, cognitive abilities such as speed of information processing and working capacity decline (Niessen *et al.*, 2010; Verhaeghen & Salthouse, 1997).

Contrary to the above, other researchers state that career adaptability may change in response to different situations and found that the transition from work to retirement prompted the display of career adaptability (Ebberwein, Krieshok, Ulven & Prosser, 2004; Johnston *et al.*, 2013). Heckhausen, Wrosch and Schulz (2010) support the view that career adaptability can increase with age and explain their finding by using theories and findings from the life span developmental literature. Specifically, the motivational theory of life span development suggests that individuals' primary control capacity decreases with age, and that aging individuals compensate for this decline by enhancing their secondary control striving. This may manifest itself in increases in self-esteem, perceptions of personal control and self-efficacy, which positively predict changes in control, confidence and overall career adaptability over time. Consistent with this finding, an empirical study found that self-esteem gradually increases throughout adulthood (Robins,

Trzesniewski, Tracy, Gosling & Potter, 2002). Thus, the motivational theory of life span development suggests that older individuals experience greater increases in control and confidence over time than younger individuals (Zacher, 2014b). Other researchers have found that young adults do not know where to find the information needed to be able to make a career decision and that the poor self-exploratory processes lead to negative outcomes for the individual, such as not being able to settle on a career (Creed, Fallon, & Hood, 2009; Julien, 1999). It would seem that career adaptability skills, such as career decision-making and self-exploration, are important career developmental tasks than influence the level of career adaptability in individuals (Savickas, 1997; Whiston & Keller, 2004; Zikic & Klehe, 2006).

However, studies by Rossier *et al.* (2012) have found that age in general seems to have no impact on people's career adaptability and that is in contrast with the development of vocational maturity which is supposed to increase with age (Supper & Kidd, 1979).

3.2.3.2 Gender

Once again various researchers differ in their findings on the impact of gender on career adaptability. In a recent research by Ismail *et al.* (2016) gender did not have a significant main effect on overall career adaptability. However, researchers such as Coetzee and Harry (2015); O'Connell, McNeely and Hall (2008); Havenga (2011); Rocha (2012) and Rossier *et al.* (2012) found a significant relationship between gender and career adaptability. They state that female participants had significantly higher levels of career adaptability than their male counterparts. A study conducted by Ferreira (2012) also supports this finding and reported that women showed higher levels of career adaptability as compared to men. The findings of the research by Ferreira (2012) that females experienced a higher level of career purpose and career venturing, means that they have a tendency to move from one career to the next much more easily than the male participants and that supports the study conducted by Zhang (2011). The results also suggest that the female participants were far more open to new career opportunities (Ferreira, 2012). In another study, Hartung, Porfeli and Vondracek (2008) found that adolescent girls scored higher on the construct career maturity/adaptability than did their male counterparts.

However, Carless and Arnup (2011) argue that males are more likely to change careers, which should suggest that males are more flexible than females. Lastly, Hirschi (2009) established that gender did not affect career adaptability development at all. Therefore, these findings emphasize

the fact that research findings or results regarding gender differences in career adaptability are inconclusive, as stated by the majority of the researchers (Carless & Arnup, 2011; Havenga, 2011; Patton, Bartrum & Creed, 2004).

3.2.3.3 *Race*

Research by Coetzee and Stoltz (2015) found that black participants showed higher levels of career adaptability compared to white participants. The finding is attributed to the positive influence of the increased intra-organisational career opportunities available to blacks in the democratic South Africa (Coetzee & Stoltz, 2015). Furthermore, the higher levels of satisfaction of the black participants with their career, training and development opportunities could be attributed to the South African employment equity, affirmative action and skills development legislation which afford them more developmental opportunities. According to research by Harry (2014), no significant effects were observed between race and resiliency-related behavioural capacities (career adaptability). However, in research conducted by Ferreira (2012) black women scored higher on control which suggests that they tend to be more in control of their careers.

3.2.3.4 *Marital status*

In research by Harry (2014) no significant interaction effects were found between marital status and resiliency-related behavioural capacities (career adaptability). However, the research by Ferreira (2012) found that marital status, specifically being single has an impact on career adaptability. According to Ferreira (2012) single individuals are more likely to think and plan important things before taking any action. That implies the realisation that today's choices shape their future and as a result they will think diligently about their decisions before they finalise them (Ferreira, 2012).

Table 3.3 summarises the variables influencing hardiness development.

Table 3.3: Summary of Demographical Variables that Influence Career Adaptability Development.

Demographical variables	Core-conclusion
Age	There are conflicting findings on the impact of age on career adaptability. Ismail <i>et al.</i> (2016) found a significant positive relationship between young adults' ages and career adaptability. Rossier <i>et al.</i> (2012) however found that age in general seems to have no impact on people's career adaptability.
Gender	Various researchers differ in their findings on the impact of gender on career adaptability. Gender did not have a significant main effect on overall career adaptability (Ismail <i>et al.</i> , 2016). However, a significant relationship between gender and career adaptability was found (Coetzee & Harry, 2015; Havenga, 2011; Rocha, 2012; Rossier <i>et al.</i> , 2012).
Race	There are conflicting findings on the impact of race on career adaptability. Blacks showed higher levels of career adaptability than their white counterparts (Coetzee & Stoltz, 2015). No significant effects were observed between race and career adaptability (Harry, 2014). Black women scored higher on control which suggests that they tend to be in control of their careers (Ferreira, 2012).
Marital status	There are conflicting findings on the impact of marital status and career adaptability. Harry (2014) found no significant interaction effects between marital status and resiliency-related behavioural capacities (career adaptability). Ferreira (2012) found single individuals are more likely to think and plan important things before taking any action.

3.3 INTEGRATION: THE THEORETICAL RELATIONSHIP BETWEEN HARDINESS AND CAREER ADAPTABILITY

Chapters 2 and 3 provided a comprehensive literature review of the independent variable (hardiness) and the dependent variable (career adaptability) that are of relevance to this research study in an attempt to answer the first and second research questions – that is, how the literature conceptualises career development and career support practices of students in the 21st century and how the two constructs (hardiness and career adaptability) are conceptualised and explained by means of theoretical models in the literature.

Given the rising unemployment rate in South Africa, hardiness and career adaptability are vital constructs in order for individuals to develop relevant psychological strengths to cope with career challenges (Tolentino *et al.*, 2014; Zacher, 2014; Zhou *et al.*, 2016). According to Bimrose and Hearne (2012) it is imperative that individuals should develop resilience and career adaptability in order to navigate better in the volatile labour markets. Developing employees' career adaptability resources encourage proactive career behaviours which will help individuals to shape their problem-solving strategies in order to deal with career adversities (Ferreira, Coetzee & Masenge, 2013).

The modern career environment is turbulent and stressful (Lyons *et al.*, 2015). Moreover, traditional linear organisational careers are giving way to modern self-directed, values driven and boundaryless careers where individuals are expected to take responsibility for their career development (Amundson, Mills & Smith, 2014). The effects of globalisation, rapidly changing technology, change in organizational structures, growing labour market skills gap and the present global economic recession make career management a daunting and unpredictable task for individuals (Amundson *et al.*, 2014; Gubler, Arnold, & Coombs, 2014; Sweet & Meiksins, 2012; Supeli & Creed, 2016; Uy, Chan, Sam, Ho & Chernyshenko, 2015). In light of these increased pressures, it is very important that individuals develop the psychological capital to remain adaptable and resilient in order to deal with career uncertainties (Bimrose & Hearne, 2012; Ferreira, 2012; Huang, 2014).

Hardiness is a resiliency-related behavioural capacity in which individuals possess a constellation of personality characteristics that function as resistance resources in stressful life events (Kobasa *et al.*, 1982). McVicar (2003) stated that there are individual differences in the perception,

response, and ability to cope with stressful situations. Hardiness is one of the protective factors that an individual may use to deal with stressful situations (Abdollahi et al., 2015). Resilience involves the development of coping strategies to overcome career obstacles (Bimrose & Hearne, 2012). Thus individuals who perceive themselves as able to develop and implement such coping strategies are more resilient when faced with career disruptions (Bimrose & Hearne, 2012; Lyons *et al.*, 2015). Research indicates that individuals who are more resilient to career adversities and disruptions are more likely to be satisfied with their career progress (Chiaburu, Baker & Pitariu, 2006; Lyons *et al.*, 2015). Resilience is the mediator between an individual and career success, therefore, developing resilience is a potential intervention to increase career satisfaction (Lyons *et al.*, 2015). Research suggests that hardiness helps individuals to gravitate towards active coping strategies which include problem-focused coping, support seeking and strengthening their career adaptability (Ferreira, 2012).

Career adaptability is defined as a person's resources for coping with current and anticipated vocational tasks (Savickas & Porfeli, 2012). It is a central variable which represents a set of strengths that individuals can acquire which theoretically affect how they make their way through the world of work (Duffy, Douglass & Autin, 2015). They state that an individual's sense of career adaptability is linked to a host of positive vocational and well-being outcomes. Among college students, career adaptability has been linked with variables such as job search self-efficacy, career optimism, proactive personality, career decision self-efficacy (Cai, Guan, Li, Shi, Guo & Liu, 2015; Douglass & Duffy, 2015; Praskova, Hood & Creed, 2014; Tolentino *et al.*, 2014). Students who are highly adaptable in their careers are not only feeling confident while searching for jobs but are also more likely to be employed post-graduation (Duffy *et al.*, 2015).

The study by Coetzee and Harry (2015) indicates that individuals' career adaptability is positively predicted by their sense of hardy control. They further state that individuals who are highly motivated to engage in effortful coping (hardy control) strengthened their career adaptability capacities (Coetzee & Harry, 2014).

In terms of the hypotheses of the study, the literature review provided supportive evidence for both hypotheses as explained in Table 3.4.

Table 3.4: *Integration and Theoretical Comparison of Hardiness and Career Adaptability*

Construct	Hardiness	Career adaptability
Conceptualisation (definitions)	Hardiness is viewed as a personality characteristic thought to shape the way an individual thinks about the world and to provide motivation to do difficult things (Kobasa, 1979; Zhang, 2011). It is an individual's ability to adapt and resourcefully respond to the demands posed by pursuing a career in the current era of a more turbulent, uncertain, and ever-changing employment environment (Maree, 2013; Tolentino, Garcia, Lu, Restubog, Bordia & Plewa, 2014; Zacher, 2014a).	Career adaptability is a psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions and traumas in their occupational roles (Savickas & Porfeli, 2012). Adaptability reflects the ability to adjust to changes and to manage career tasks and challenges, especially in unanticipated and stressful situations (Coetzee & Harry, 2015; Zacher, 2014a).
Applicable theoretical model and measures	The Hardiness model by Kobasa (1985), based on the Personal Views Survey (PVSII), Maddi and Khoshaba, (2001)	The Career Adapt-Ability Inventory (CAAI) by Savickas and Porfeli (2012), based on the career construction theory of Savickas <i>et al.</i> (2009)
Core sub-dimensions of the construct	<ul style="list-style-type: none"> • Commitment • Control • Challenge 	<ul style="list-style-type: none"> • Career concern • Career control • Career curiosity • Career confidence

Construct	Hardiness	Career adaptability
Theoretical relationship between the constructs	<ul style="list-style-type: none"> • Enables an individual to cope with challenging circumstances. • Hardiness dimensions enhance career adaptability 	<ul style="list-style-type: none"> • Individuals are able to deal with the challenges of their careers. • The ability and willingness to adapt enhances career success.
Demographical variables influencing the constructs	<ul style="list-style-type: none"> • Younger participants scored higher on hardiness which suggests that they can handle and maintain their own destiny. • Males tend to show higher levels of hardiness than women in their careers. • Black women showed higher levels of hardiness than the other race groups but race does not have a significant impact on hardiness. • Married individuals scored higher on hardiness than widowed and single participants. • There is a paucity of research regarding the influence of field of study on hardiness. 	<ul style="list-style-type: none"> • There are conflicting findings on the impact of age on career adaptability. • Various researchers differ in their findings on the impact of gender on career adaptability. • No significant effects were observed between race and career adaptability. • There are conflicting findings on the impact of marital status and career adaptability. • There seems to be a paucity of research on the influence of field of study to career adaptability.
Implications for practice	<ul style="list-style-type: none"> • Individuals are willing to face challenges and deal with them. • It leads to a greater sense of resilience. 	<ul style="list-style-type: none"> • Enhances a stronger sense of responsibility. • Enhances ability to overcome career challenges • Leads to career success

3.4 IMPLICATIONS FOR CAREER SUCCESS

As the study focuses on the relationship between hardiness and career adaptability, it is essential that students develop both constructs for them to succeed in their careers. The literature review suggests that adaptive readiness in individuals enhances their willingness to develop critical career adaptability resources such as concern, control, confidence and curiosity (Savickas, 2013; Tolentino *et al.*, 2014, Zhou, Guan, Xin, Mak & Deng, 2016). The career adaptability resources prepare an individual to adapt and positively respond to changing career circumstances (Coetzee & Harry, 2015; Savickas & Porfeli, 2012; Tolentino *et al.*, 2014; Zacher, 2014a). Adaptive readiness is conceptualized as a compound of personality traits such as proactivity and optimism (Zhou *et al.*, 2016). Nota *et al.*, 2014 explains adaptivity as a personality trait of an individual that is irrepressible and stable or a propensity of an individual that enables him/her to be flexible or willing to change.

Hardiness is a combination of action readiness and adaptive cognition and emotion targeted at the enrichment of life through development, adaptation, and survival (Ferreira, 2012). Hardiness has been found to predict persistence, longevity, and educational choice (Creed *et al.*, 2013). The hardiness model emphasises the role of the personality attributes related to commitment, control and challenge as attitudes which enhance hardiness (Ferreira & Coetzee, 2013; Maddi & Khoshaba, 2005; Sonderstrom, Dolbier, Leiferman & Steinhardt, 2000). Di Fabio and Kenny (2015) researched the contribution of emotional intelligence and social support for adaptive career progress among Italian youth. They found that all dimensions of emotional intelligence were significant to career progress. Moreover, internal dimensions of emotional intelligence which are characterised by emotional awareness, flexibility, and management are related to resilience, which gives individuals the capacity to maintain focus, perseverance, and overcome obstacles (Di Fabio & Kenny, 2015). Their finding is consistent with the emotional intelligence theory that students who are able to effectively manage their emotions are able to focus and persevere despite the stress of challenging circumstances (Di Fabio & Kenny, 2015; Salovey, Bedell, Detweiler & Mayer, 2000). Therefore the hardiness attributes are important adaptivity traits for enhancing career adaptability (Coetzee & Harry, 2015). According to Harry (2014) raising call centre agents' awareness about how their hardiness relates to their ability to manage their career development in the call centre environment may enhance their career well-being and satisfaction.

As career adaptability positively predicts career satisfaction and self-related career performance, it also enables individuals to achieve subjective career success (Coetzee & Stoltz, 2015; Zacher, 2014a). Research has demonstrated that career adaptability served as an important predictor for career-related outcomes such as professional competence, job search outcomes, salary and career satisfaction (Chan & Mai, 2015; Guan, Yang, Zhou, Tian, & Eves, 2016; Guan, Zhou, Ye, Jiang & Zhou, 2015). Guan *et al.* (2013) examined career adaptability and job search processes among Chinese university students. They found that career adaptability was associated with job search self-efficacy, which in turn predicted later employment status and aspects of fit to the new work environment. In a research by Wright *et al.* (2013) examining the role of self-efficacy in relation to college students' performance and behaviour, they found that controlling for gender, ethnicity, first generation status and prior performance in relation to self-efficacy was a good predictor of students' academic success. Career adaptability has therefore become a vital component of career development as it facilitates successful adjustment and proactive career behaviour that will enable an individual to succeed in his/her career pursuit (Savickas & Porfeli, 2012; Tolentino *et al.*, 2014).

As a result of the above discussion, individuals should consider developing the constructs hardiness and career adaptability in order to achieve their career aspirations. Research conducted by Coetzee and Harry (2015) showed that individuals' career adaptability can be fostered by strengthening their hardiness.

3.5 CHAPTER SUMMARY

The chapter conceptualised the constructs of hardiness and career adaptability by means of a comparative examination of the basic literature and research on these constructs. The theoretical models as well as the variables influencing the development of hardiness and career adaptability were explained in detail. The chapter concluded with a discussion of the integration of the theoretical relationship between hardiness and career adaptability.

Therefore, literature research aims 2, 3 and 4 have been achieved.

Research aim 2: To conceptualise and explain the constructs; hardiness and career adaptability from theoretical perspective models in the literature.

Research aim 3: To identify and explain the relationship between hardiness and career adaptability in terms of the theoretical models of these constructs.

Research aim 4: To conceptualise the effect of the demographical variables (age, gender, race, marital status and field of study) on the relationship between hardiness and career adaptability.

Chapter 4 discusses the empirical investigation with the specific aim of determining the statistical strategies that can be employed to investigate the relationship dynamics between the constructs; hardiness and career adaptability among TVET college students in Gauteng.

CHAPTER 4: EMPIRICAL RESEARCH

The chapter deals with the empirical investigation with the aim of describing the statistical strategies that were employed to investigate the relationship dynamics between hardiness and career adaptability. An overview of the study population and sample is presented. The measuring instruments will be discussed and the choice of each will be substantiated, followed by data collection and processing. The formulation of the research hypotheses will be stated and the chapter concludes with a chapter summary.

The empirical phase consisted of nine steps, as indicated below:

- Step 1: Determination and description of the sample
- Step 2: Choice and motivation of the psychometric battery
- Step 3: Administration of psychometric battery
- Step 4: Data capturing
- Step 5: Research hypothesis formulation
- Step 6: Statistical processing of data
- Step 7: Reporting and integration of results
- Step 8: Integration of research
- Step 9: Conclusion, limitations and recommendations

4.1 DETERMINATION AND DESCRIPTION OF THE SAMPLE

A sample is a segment or subset of a given population drawn for the purpose of observing its characteristics, in order to make statistical decisions concerning the corresponding characteristics of the whole population (Babbie, 2014; Kenett, 2014). Sampling is a process of systematically selecting cases for inclusion in a research project, in which the researcher uses sampling to extract a representation of the population from which the research conclusions will be drawn (Tredoux & Durrheim, 2013). When deciding on the sample, it is crucial that the sample size is representative of the population for the results to be easily generalised (Bryman, 2014; Creswell, 2014; Flick, 2014).

A non-probability convenience sampling was used for the study. The sampling method was chosen to ensure that the researcher obtained a sufficient number of easily accessible members of the population to participate in the study (Kumar, 2014). Convenience sampling is influenced by aspects such as easy accessibility of participants, geographical proximity, known contacts of participants, time and costs (Bryman, 2014; Kumar, 2014). Non-probability samples are used when there are possible boundaries in place preventing probability sampling from being used, where there are no available sampling frames, the cost of probability sampling is high and there are time constraints (Tredoux & Durrheim, 2013). However, one of the shortcomings of convenience sampling is that it is not representative of the population, therefore, the findings can hardly be generalised (Babbie, 2014).

The population of the study consisted of approximately 20 000 students registered at three TVET colleges (Tshwane North TVET College (6 000), Tshwane South TVET College (7 000) and Ekurhuleni West TVET College (7 000)) in Gauteng. A total of 249 students completed the questionnaire, however only 198 were usable for the study ($N = 198$). Thus a response rate of 80% was achieved.

4.1.1 Composition of age groups in the sample

The age distribution of the participants is indicated in this section.

Table 4.1: *Age Distribution of Sample*

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percentage
Valid	21 & younger	186	93.9	93.9	93.9
	22 – 30	0	0	0	0
	31 – 45	12	6.1	6.1	100
	Total	198	100.0	100.0	

As indicated in Table 4.1, the age distribution shows that participants aged 21 and younger comprised 93.9% of the sample, while participants aged between 31 to 45 years comprised 6.1% of the total sample ($N = 198$). The information is also illustrated in Figure 4.1 below.

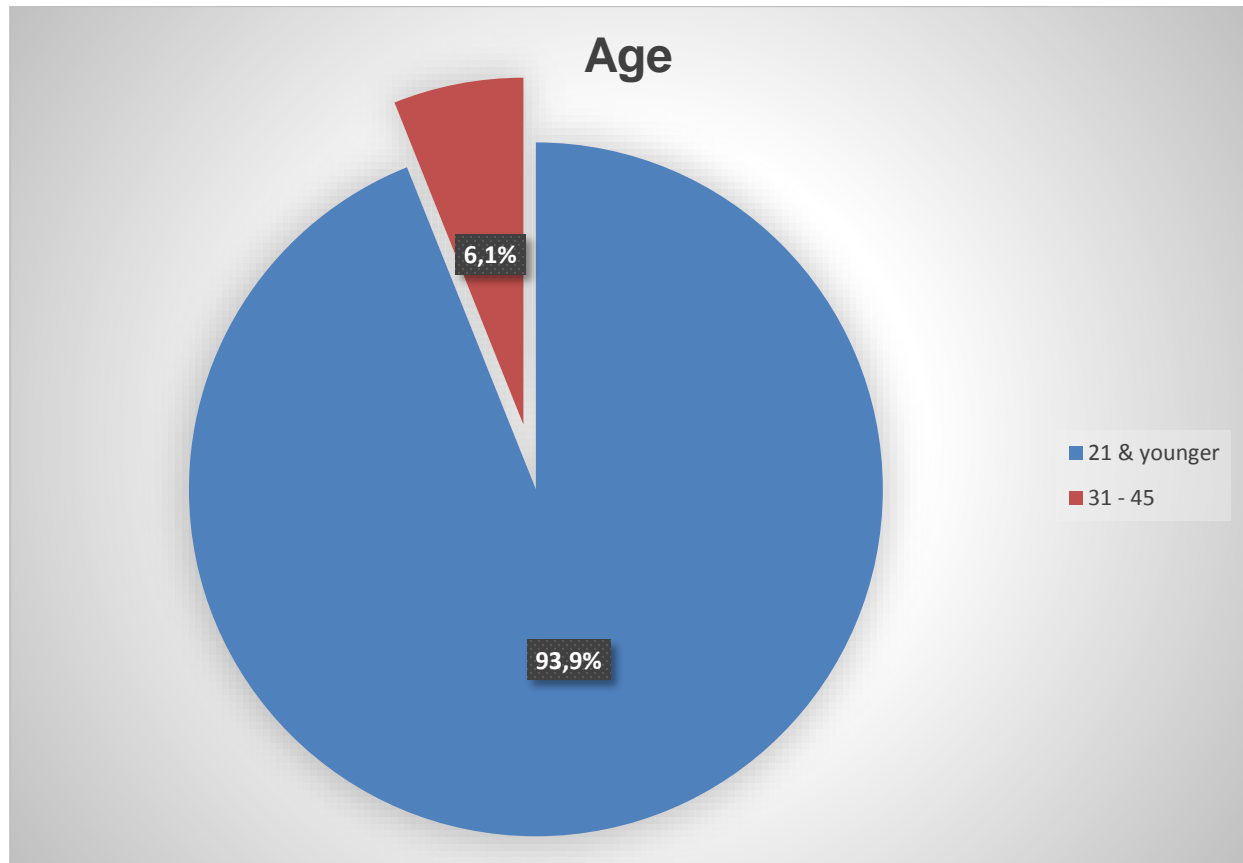


Figure 4.1: Sample Distribution by Age ($N = 198$)

4.1.2 Composition of gender groups in the sample

The gender distribution of the participants is indicated in this section.

Table 4.2: Gender Distribution of Sample

GENDER					
		Frequency	Percent	Valid Percent	Cumulative Percentage
Valid	Males	84	42.4	42.4	42.4
	Females	114	57.6	57.6	100.0
	Total	198	100.0	100.0	

As indicated in Table 4.2, the gender distribution of the participants is 42.4% males and 57.6% females of the total sample ($N = 198$). The gender distribution is illustrated in Figure 4.2 below.

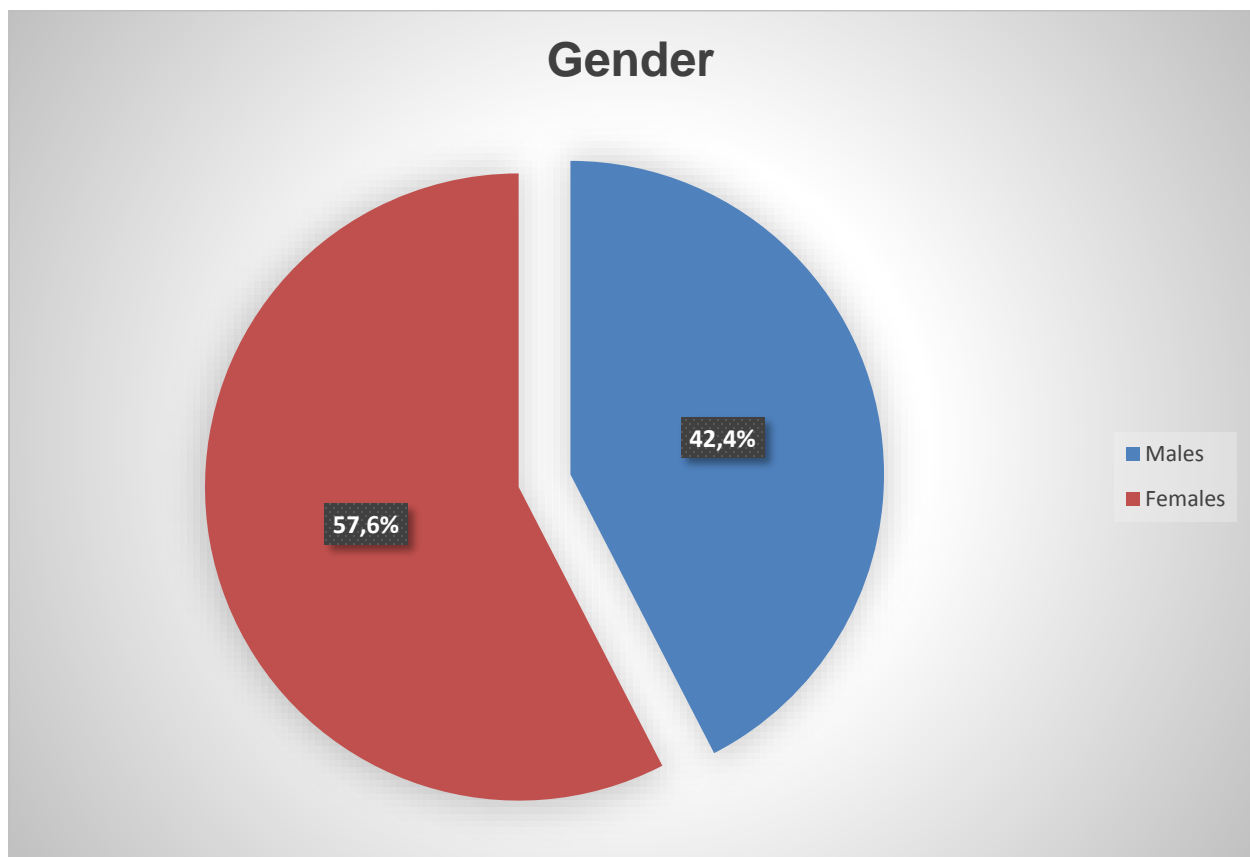


Figure 4.2: Sample Distribution by Gender ($N = 198$)

4.1.3 Composition of race groups in the sample

The race distribution of the participants is indicated in this section.

Table 4.3: Race Distribution of Sample

RACE					
		Frequency	Percent	Valid Percent	Cumulative Percentage
Valid	African	184	92.9	92.9	92.9
	Coloured	11	5.6	5.6	98.5
	Indian	3	1.5	1.5	100.0
	Total	198	100.0	100.0	

As indicated in Table 4.3, the race distribution shows that 92.9% were Africans; Coloureds comprised 5.6% while Indians comprised 1.5% of the sample ($N = 198$). The race distribution of the sample is illustrated by Figure 4.3 below.

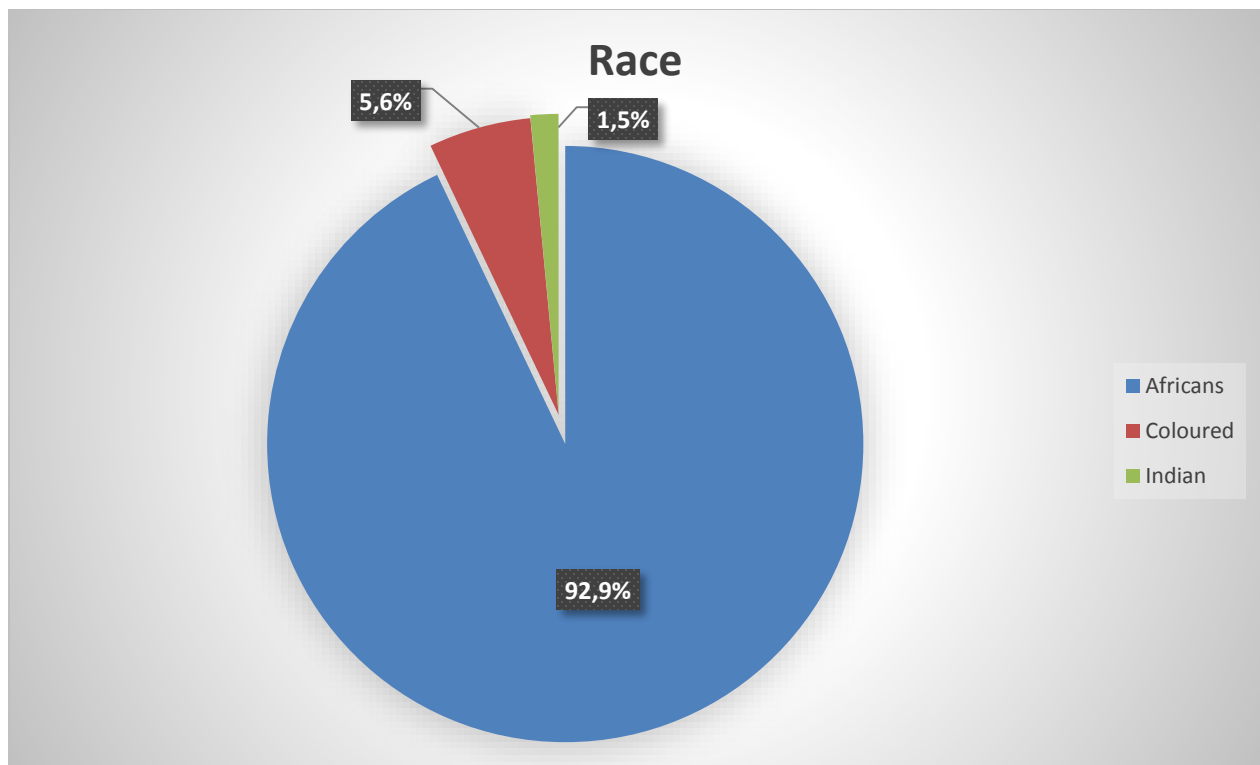


Figure 4.3: Sample Distribution by Race ($N = 198$)

4.1.4 Composition of marital status groups in the sample

In this section the marital status of the sample is discussed.

Table 4.4: *Marital Status Distribution of Sample*

MARTAL STATUS					
		Frequency	Percent	Valid Percent	Cumulative Percentage
Valid	Single	190	96.0	96.0	96.0
	Married	7	3.5	3.5	99.5
	Widowed	1	.5	.5	100.0
	Total	198	100.0	100.0	

As indicated in Table 4.4, the marital status distribution shows that 96.0% of the sample was single, 3.5% of them were married and .5% were widowed. The marital status distribution is illustrated by Figure 4.4 below.

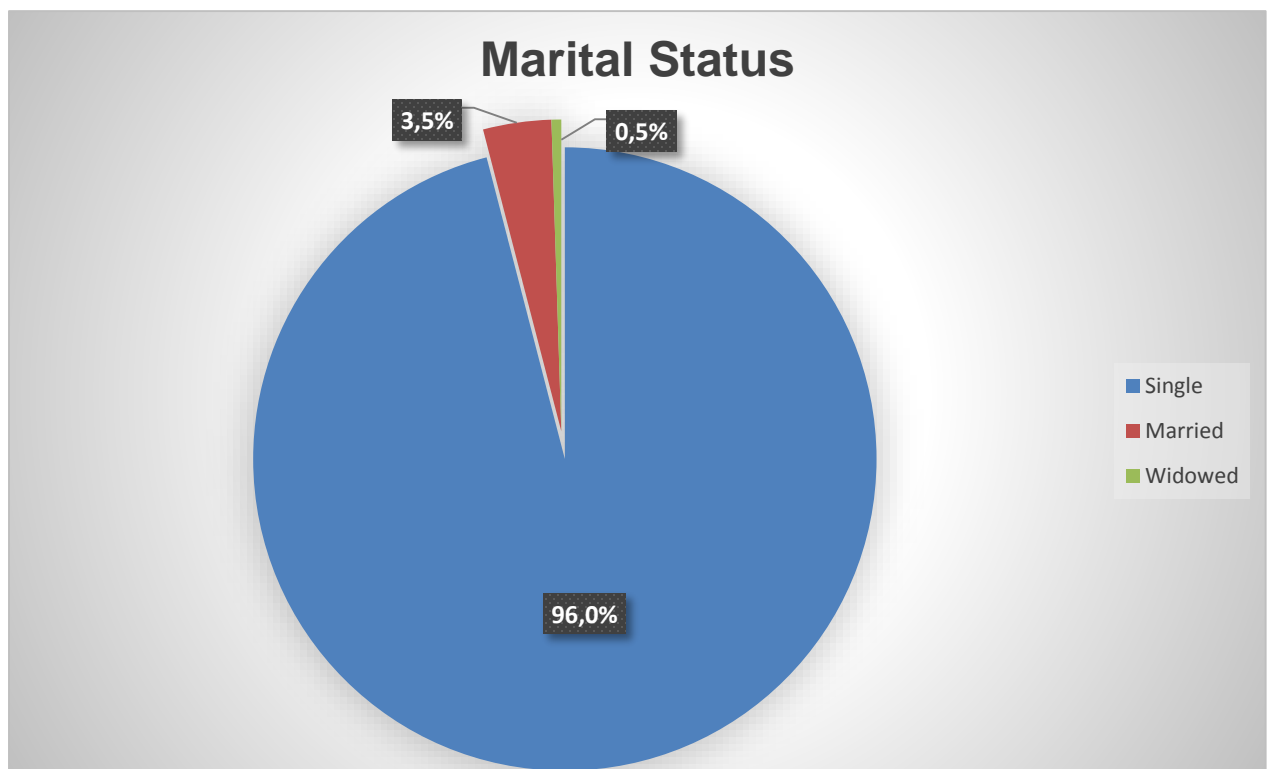


Figure 4.4: Sample Distribution by Marital Status (N = 198)

4.1.5 Composition of field of study in the sample

In this section the field of study of the sample will be discussed.

Table 4.5: *Field of Study Distribution of Sample*

FIELD OF STUDY					
		Frequency	Percent	Valid Percent	Cumulative Percentage
Valid	NCV Engineering Studies	12	6.1	6.1	6.1
	NCV Business Studies	1	.5	.5	6.6
	NCV Social & Utilities studies	41	20.7	20.7	27.3
	N1 – N6 Business Studies	62	31.3	31.3	58.6
	N1 – N6 Social and Utilities Studies	10	5.1	5.1	63.6
	N1 – N6 Engineering Studies	65	32.8	32.8	96.5
	Other	7	3.5	3.5	100.0
	Total	198	100.0	100.0	

As indicated in Table 4.5, N1 – N6 Engineering Studies comprised 32.8%, N1 – N6 Business Studies comprised 31.3%, NCV Social & Utilities studies comprised 20.7%, NCV Engineering Studies comprised 6.1%, N1 – N6 Social and Utilities Studies comprised 5.1%, Other comprised 3.5% and NCV Business Studies comprised .5% of the sample. This is also illustrated by Figure 4.5 below.

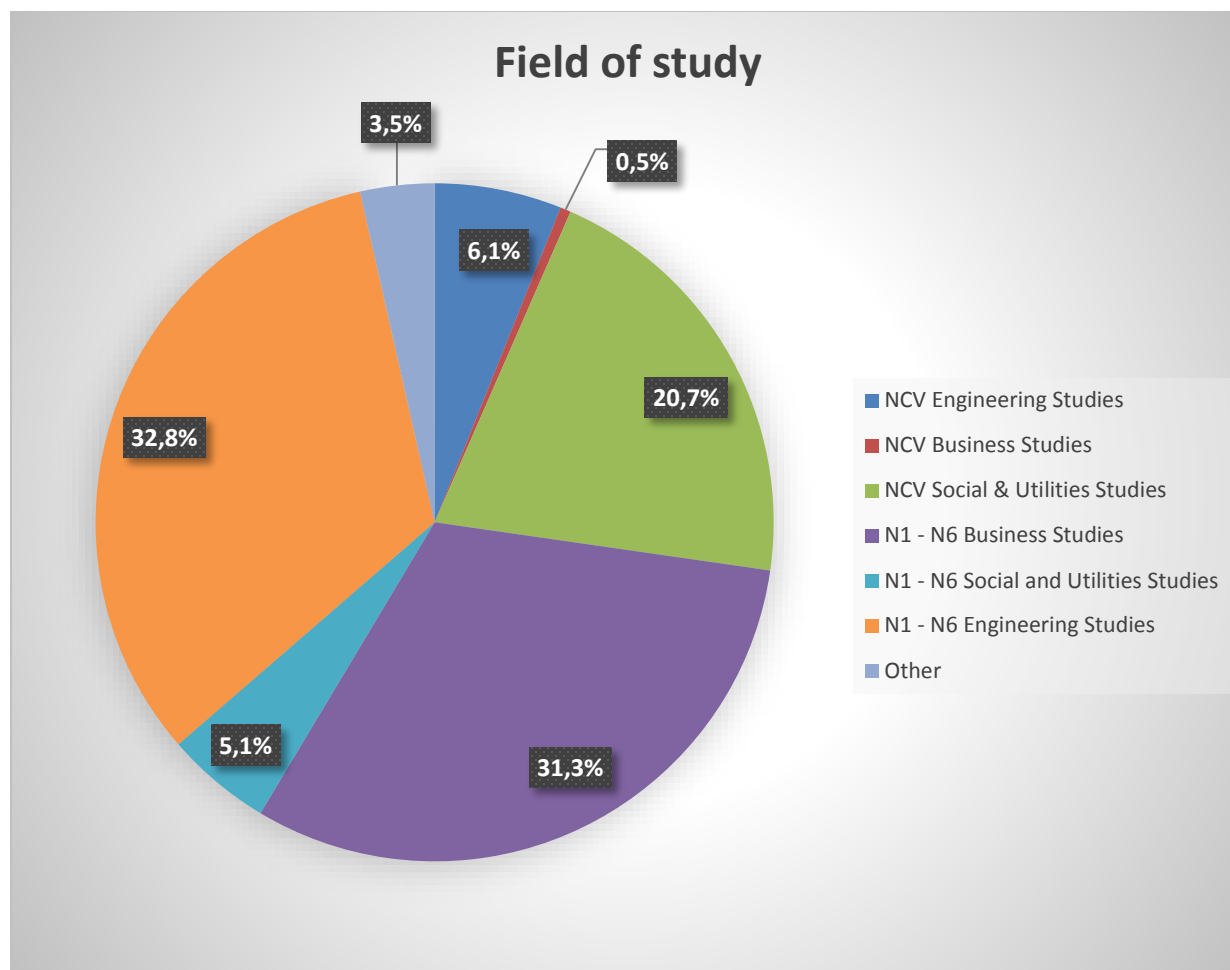


Figure 4.5: Sample Distribution by Field of Study ($N = 198$)

4.1.6 Summary of sample demographic profile

The biographical profile of the study shows that the sample is predominantly African (92.9%), female (57.6%), single (96.0%), between the age 21 and younger (93.6%) in N1 – N6 Engineering Studies (32.8%) field of study. Table 4.6 provides a summary of the frequency distribution of the biographical profile of the sample.

Table 4.6: *Summary of Frequency Distribution of the Sample' Biographical Profile*

		Frequency	Percent	Valid percent	Cumulative percent
Age	21 & younger	186	93.9	93.9	93.9
	31 – 45	12	6.1	6.1	100
	Total	198	100.0	100.0	
Gender	Males	84	42.4	42.4	42.4
	Females	114	57.6	57.6	100.0
	Total	198	100.0	100.0	
Race	African	184	92.9	92.9	92.9
	Coloured	11	5.6	5.6	98.5
	Indian	3	1.5	1.5	100.0
	Total	198	100.0	100.0	
Marital status	Single	190	96.0	96.0	96.0
	Married	7	3.5	3.5	99.5
	Widowed	1	.5	.5	100.0
	Total	198	100.0	100.0	
Field of study	NCV Engineering Studies	12	6.1	6.1	6.1
	NCV Business Studies	1	.5	.5	6.6
	NCV Social & Utilities studies	41	20.7	20.7	27.3
	N1 – N6 Business Studies	62	31.3	31.3	58.6
	N1 – N6 Social and Utilities Studies	10	5.1	5.1	63.6
	N1 – N6 Engineering Studies	65	32.8	32.8	96.5
	Other	7	3.5	3.5	100.0
	Total	198	100.0	100.0	

4.2 CHOOSING AND MOTIVATING THE PSYCHOMETRIC BATTERY

The selection of the measuring instruments that were used in this study was informed by the literature review. The following measuring instruments were used:

- A biographical questionnaire to determine data regarding age, gender, race, marital status and field of study.
- The personal Views Survey (PVSIII-R) developed by Maddi and Khoshaba (2001).
- The Career Adapt-abilities Inventory (CAAI) developed by Savickas and Porfeli (2012).

4.2.1 The biographical questionnaire

A biographical questionnaire was used to obtain the personal information of the sample, namely age, gender, race, marital status and field of study.

4.2.2 The Personal Views Survey (PVSIII-R)

The discussion below explains the development, rationale, description of scales, administration, interpretation, validity, reliability and motivation for using the PVSIII-R.

Development and rationale of the PVS III-R

The Personal Views Survey (PVS III-R) was developed by Maddi and Khoshaba in 2001 in order to measure individuals' hardiness. The PVS III-R consists of three dimensions namely; control, commitment and challenge (Maddi *et al.*, 2009). Commitment assesses how an individual views potentially stressful situations as meaningful and interesting, sees stressors as changeable and a challenge and assesses how an individual regards change as a normal feature of life (Kobasa *et al.*, 1982).

Description of the PVS III-R scales

The PVS III-R consists of 18 items and measures three dimensions of hardiness, namely control, commitment and challenge. Each of these dimensions has a number of items or structured

questions to measure individuals' hardiness (Maddi & Khoshaba, 2001). The following is a detailed description of the three dimensions:

- Commitment (6 items, e.g. "I often wake up eager to take up life wherever it left");
- Control (6 items, e.g. "When I make plans, I'm certain I can make them work"); and
- Challenge (6 items, e.g. "Changes in routine provoke me to learn").

This dimension assesses how an individual regards and responds to change instead of stability as the norm of life. Each item in the questionnaire corresponds to a particular ability, where participants need to rate the given statements according to how strongly they have developed each ability from 0 (not at all true) to 3 (completely true).

Administration of the PVS III-R

The PVS III-R is a self-administered questionnaire and takes about 5 to 10 minutes to complete; however, there is no time limit. Clear instructions are provided on how the instrument should be completed. Each subscale is measured separately and reflects the participants' hardiness on these dimensions, therefore it is possible to analyse which dimensions are perceived to be true for the participants and which are not. The higher the score, the truer the statement is for the respondent. Subscales with the highest means scores are regarded as the respondent's dominant hardiness attribute.

The PVS III-R has a four-point Likert-type scale and each item is rated as follows:

- 0 = Not at all true
- 1 = A little true
- 2 = Mostly true
- 3 = Very true

Participants rate the statements based on their self-perceived hardiness.

Interpretation of the PVSIII-R

A four-point Likert-type scale is used for rating both the existing and preferred responses to the

questionnaire. Each subscale (control, commitment and challenge) is measured separately and reflects the participants' hardiness on these dimensions. Therefore, it is possible to analyse which dimensions are perceived to be true or not true by the participants. The higher the score, the truer the statement is for the participant. Subscales with the highest mean scores are regarded as the participant's dominant hardiness attribute.

Validity and reliability of the PVSIII-R

According to Maddi and Khoshaba, (2001) the PVS III-R is a valid and reliable instrument to measure hardiness. A significant test-retest correlation of .85 for *commitment*, .68 for *control* and .70 for *challenge* has been reported (Kobasa, 1982). Moreover, the subscales of the PVS III-R indicate a significant internal validity of .82 for *commitment*, .74 for *control* and .76 for *challenge* and an overall Cronbach's Alpha of .74 (Maddi *et al.*, 2006). In research conducted by Ferreira and Coetzee (2013), the Cronbach's Alpha coefficients (internal consistency) for the three subscales were as follows: *commitment* (.76), *control* (.71) and *challenge* (.59).

Motivation for using the PVS III-R

The PVS III-R was designed for the measurement of hardiness in various contexts, which is relevant to this research study.

Since the purpose of the research study was not to make individual predictions based on the PVS III-R, but instead to investigate broad trends and certain relations between variables, the measuring instrument was deemed acceptable for the purpose of this study.

4.2.3 The Career Adapt-Abilities Inventory (CAAI)

The discussion below explains the development, rationale, description of scales, administration, interpretation, validity, reliability and motivation for using the CAAI.

Development and rationale of the CAAI

The CAAI was constructed by an international team of vocational psychologists from 18 countries based on the initial development of the CAAI by Savickas (2010) (Savickas & Porfeli, 2012;

Savickas, 2010). The purpose of the CAAI is to measure the construct of career adaptability of individuals in terms of concern, control, curiosity and confidence as psychosocial resources for managing occupational transitions, developmental tasks and work traumas (Savickas & Porfeli, 2012).

Description of the CAAI scales

The CAAI is a self-rated, multifactorial measure that consists of 44 items that are divided into four subscales:

- Concern (6 items, e.g. “Thinking about what my future will be like”);
- Control (6 items, e.g. “Taking responsibility for my actions”);
- Curiosity (6 items, e.g. “Becoming curious about new opportunities”); and
- Confidence (6 items, e.g. “Performing tasks efficiently”).

Each item in the questionnaire corresponds to a particular ability, and participants need to rate the given statements according to how strongly they have developed each ability from 1 (not strong) to 5 (strongest).

Administration of the CAAI

The CAAI is a self-administered questionnaire and takes about 5 to 10 minutes to complete; however, there is no time limit. The items are structured in a statement format with a rating scale for each statement. Instructions clearly indicate on how to complete the instrument.

The CAAI is a five-point Likert-type scale and each item is rated as follows:

- 1 = Not Strong
- 2 = Somewhat Strong
- 3 = Strong
- 4 = Very Strong
- 5 = Strongest

Each of the five subscales produces a separate score. Participants rate the statements according to their self-perceived career adaptability (Maree, 2012).

Interpretation of the CAAI

Each dimension (concern, control, curiosity, and confidence) is measured separately and reflects the respondents' career adaptability on that specific dimension. Therefore, analysis can be done to determine which features are perceived to be true or not by the participants. The higher the score, the truer the statement is for the respondents (Maree, 2012). Dimensions with the highest mean score are regarded as the participant's dominant career adaptability attribute.

Validity and reliability of the CAAI

The reliability of the total score for the CAAI - International is .92 and was higher with subscale scores for concern (.83), control (.74), curiosity (.79) and confidence (.85) (Savickas & Porfeli, 2012). The reliability of the scores for the CAAI - South Africa were slightly lower when compared to CAAI - International with an overall career adaptability score of .91 which was higher than the subscale scores for concern (.76), control (.70), curiosity (.81) and confidence (.83) (Coetzee & Harry, 2015).

The mean for the total score of the CAAI – South Africa was 3.88 and a standard deviation of .48 compared to mean score of 3.81 and a standard deviation of .53 for the CAAI – International (Maree, 2012). According to Maree, (2012) the skewness and kurtosis value for the CAAI – South Africa ranged from -1.12 to .04 as compared to the range from -.86 to .86 for the CAAI – International which suggests that the items conform to the assumptions of confirmatory factor analysis.

Therefore, the above discussion confirms that CAAI is a valid and reliable tool to measure career adaptability.

Motivation for using the CAAI

The CAAI is used for this research study because it allows the specific nature of career adaptability to be measured. The psychometric assets of the CAAI also make it a valid and reliable measure of the four dimensions structure of career adaptability.

Since the purpose of the research study is not to make individual predictions on the basis of the CAAI, but rather to investigate broad trends and certain relationships between variables, the measuring instrument was therefore considered to be acceptable for the study.

4.3 DATA COLLECTION

Data collection is a process of gathering data from the sample in order to answer the research questions (Bryman, 2014).

In this study data was collected through the use of a questionnaire. A survey provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of the population (Creswell, 2014; Wagner, Kawulich & Garner, 2012). Data collection represents the key point of any research project (Bryman, 2014).

The following data collection procedure was followed:

- A questionnaire on biographical information was included, containing questions on the variables; age, gender, race, marital status and field of study.
- The PVS III-Rand CAAI questionnaires were distributed to all the participants in the sample.
- Permission was obtained first from the Department of Higher Education and Training as well as the Colleges and campus management.
- Participants were requested to participate in the study on their various campuses.
- The participants completed the questionnaires during group administration and the researcher collected the questionnaires immediately after completion.
- The researcher remained in the background to encourage participants to complete the questionnaire and answer clarity seeking questions but never influenced how the participants answered the questions.

4.4 ETHICAL CONSIDERATIONS

Research ethics is explained by Tummons and Duckworth, (2013) as the moral deliberation, choice and accountability on the part of the researcher throughout the research process. Ethical

research principles according to Schutt (2012) are about achieving valid results, honesty and openness, protecting the research participants, and avoiding harming the participants.

In order for the research to comply with the ethical requirements, the following procedures were adhered to:

- The researcher's application for ethical clearance was approved by the University Research Ethics Committee.
- Approval was obtained from the relevant department as well as the host institutions or colleges.
- All research was conducted within the ambit of the ethical requirements and procedures of Unisa at all times.
- All participation in this study was completely voluntary.
- An informed agreement of consent was obtained from all participants.
- All participants remained anonymous.
- All information, data and feedback was handled with confidentiality.
- Original data would be kept with the researcher for a period of five years.
- The researcher strived to remain objective and to conduct the research with integrity.

4.5 FORMULATION OF RESEARCH HYPOTHESES

A research hypothesis is a tentative statement of a relationship between two variables and is an educated guess about how the social world works (Tredoux & Durrheim, 2013). The study focuses on the relationship between hardiness (independent variable) and career adaptability (dependent variable) of students studying in TVET colleges in Gauteng. The hypotheses are rejected when hypothesis statements cannot be answered through scientific observation and they are accepted when statistically proven (Tredoux & Durheim, 2013).

In order to address the empirical research questions formulated in chapter 1, a number of research hypotheses were formulated. The research hypotheses are summarised in Table 4.1 below.

Table 4.7: *Summary of the Empirical Research Hypotheses*

Empirical research aim	Research hypothesis	Statistical procedure
Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng.	H01: There is no statistical significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng. Ha1: There is a statistical significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng.	Correlational analysis
Research aim 2: To empirically investigate whether differences exist between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.	H02: Differences do not exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng. Ha2: Differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.	Stepwise regression analysis.

<p>Research aim 3:</p> <p>To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness construct and career adaptability attributes (concern, control, curiosity, and confidence).</p>	<p>H03: There are no significant mean differences between the sub-groups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).</p> <p>Ha3: There are significant mean differences between the sub-groups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).</p>	<p>Test for significant mean differences</p>
<p>Research aim 4:</p> <p>To formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings.</p>		

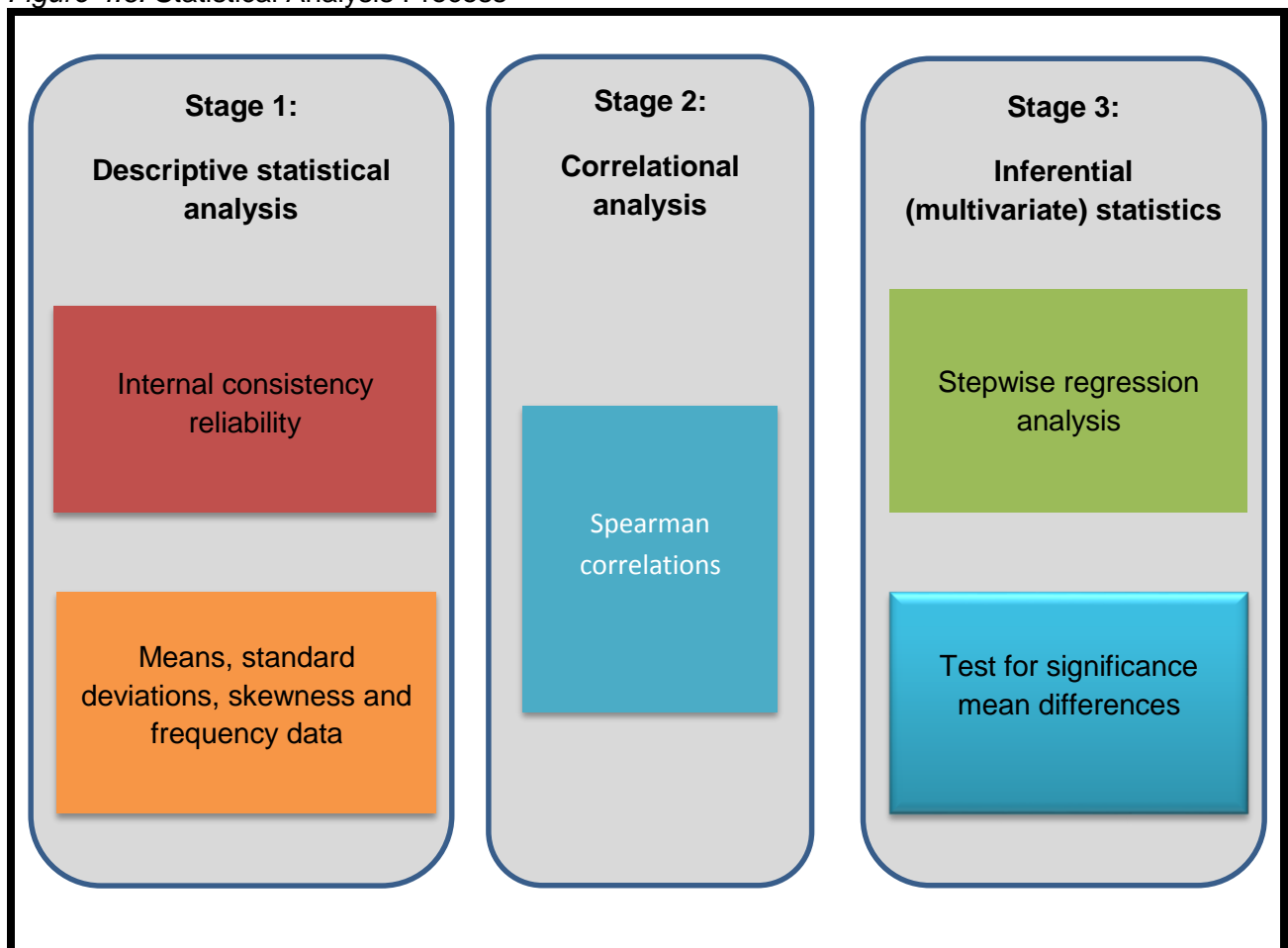
Note: H0 (null hypothesis); Ha (alternative hypothesis)

4.6 DATA ANALYSIS

As the study is of a quantitative nature, the variables will be measured with numbers. Quantitative data analysis The Statistical Package for the Social Science 2.3 (SPSS, 2003) programme was used for statistical analysis. The data will be analysed with statistical procedures in order to determine or quantify the nature of relationship between the two variables. Based on the data processing, conclusion will be drawn on the reliability, validity and generalisation of the findings.

Statistical analysis is comprised of three major stages, each consisting of various steps of statistical analysis: descriptive statistical analysis, correlational analysis and inferential (multivariate) statistical analysis as depicted in Figure 4.6

Figure 4.6: Statistical Analysis Process



4.6.1 Stage 1: Descriptive statistical analysis

Cronbach's alpha coefficients were determined for the PVS III-Rand CAAI to determine the internal consistency reliabilities of these instruments for the purpose of this study. The categorical or frequency data (means and standard deviations) as measured by the PVS III-Rand CAAI were determined for the total sample in order to apply the relevant statistical procedures.

A mean (M) is the arithmetic average, that is the sum of observed values divided by the number of cases (Babbie, 2014). Standard deviation (SD) is the measure of dispersion around the mean or, the average variation around the mean (Bryman, 2014).

4.6.2 Stage 2: Correlational analysis

The correlation coefficient describes the nature of a relationship between two variables (Wagner *et al.*, 2012). The objective of correlation analysis is to correlate simultaneously several metric dependent variables and several metric independent variables. Spearman correlation coefficient (r) was used to calculate the direction and strength between the constructs of hardiness and career adaptability as manifested in the sample of participants studying in Gauteng TVET colleges. The Spearman correlation therefore quantifies the strength and direction of the relationship between the variables of PVS III-Rand CAAI. The closer the absolute value is to one, the stronger the relationship between the two variables whereas the closer the value is to zero the weaker the relationship between the two variables (Bryman, 2014; Wagner *et al.*, 2012).

4.6.3 Stage 3: Inferential and multivariate statistical analysis

Inferential statistics were used to further examine the relationship between the variables hardiness and career adaptability. Inferential statistics are concerned with inferences about the data and will be applied as below:

- (1) Stepwise regression analysis, and
- (2) Test for significant mean differences.

4.6.3.1 *Stepwise hierarchical regression analysis*

Stepwise hierarchical regression is a statistical approach that includes regression models in which the choice of predictive variables is carried out by an automatic procedure (Bryman, 2014; Ma, Tan, Hei, Zhao & Xie, 2016). The process involves the backward elimination procedure of all the variables by testing them one by one to determine statistical significance and by deleting any that were not significant (Ma *et al.*, 2016).

4.6.3.2 *Test for significant mean differences*

In order to determine whether there were any significant differences between the mean scores of the different age groups, gender and marital status, a Mann-Whitney U test was conducted to be able to identify statistical significant differences with the intention of determining whether these groups differ in terms of their hardiness and career adaptability. Furthermore, the Kruskal-Wallis test was performed to determine whether there was a statistically significant difference between hardiness and career adaptability in terms of racial groups and field of study. The level of statistical significance was set at $p \leq .05$.

4.6.4 Level of significance

The level of significance expresses statistical significance in terms of specific probability (Bryman, 2014). In practice, a general level of significance at $p \leq .05$ is chosen to test the hypothesis which therefore provides a 95% confidence level in accepted results as the standard when applied in the research context. The most commonly used significant levels are $p \leq .05$ and $p \leq .01$ (Babbie, 2014). For the purpose of this research study, the $p \leq .05$ level of significance was used.

Multiple regression analysis was employed to determine the proportion of variance in the dependent variable (career adaptability) that is explained by the independent variable (hardiness). Since the number of independent variables has to be considered, the value of adjusted R^2 was used to interpret the results. In order to counter the probability for the type I error, the significance value was tested at a 95% confidence level ($p \leq .5$). The F -test was used to test whether there is a significant regression between the independent and dependent variables (Tredoux & Durrheim, 2013). For this study, R^2 values larger than .13 (medium effect) were regarded as practically significant.

Table 4.8 summarizes the different levels of statistical significance.

Table 4.8: *Different Levels of Statistical Significance (Tredoux & Durrheim, 2013, p. 221)*

Probability	Level	Significance
p	.10	Less significant
p	.01 to .05	Significant
p	.0001 to 0.1	Very significant
p	.001	Extremely significant

When a test of significance reveals a p -value lower than the chosen significance level, the null hypothesis is rejected and the results are referred to as statistically significant (Tredoux & Durrheim, 2013).

4.7 CHAPTER SUMMARY

The chapter discussed the determination and description of the sample used in the study, the measuring instruments of the study, data collection process and ethical considerations. The chapter concluded with the formulation of research hypotheses and data analysis.

Chapter 5 addresses the following research aims:

Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng.

Research aim 2: To empirically investigate whether differences exist between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.

Research aim 3: To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness construct and career adaptability attributes (concern, control, curiosity, and confidence).

CHAPTER 5: RESEARCH RESULTS

In this chapter, the statistical results pertaining to the following research aims are reported:

Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng.

Research aim 2: To empirically investigate whether differences exist between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.

Research aim 3: To assess whether significant differences exist between the subgroups of the biographical variables that act as significant moderators between hardiness construct and career adaptability attributes (concern, control, curiosity, and confidence).

This chapter reports on the statistical results of the study focusing on descriptive, correlational and inferential (multivariate) statistics,

5.1 DESCRIPTIVE STATISTICS

The purpose of descriptive statistics is to describe the characteristics of the sample in numerical data based on the chosen constructs and demographical variables (Babbie, 2014; Bryman, 2014). Furthermore, descriptive statistics provide a basis for later analysis of data using inferential statistics (Graziano & Raulin, 2014; Grigsby, 2015). In this section the internal consistency reliability of the two measurement instruments is assessed, followed by a discussion of the means (*M*), standard deviations (*SD*), skewness and kurtosis that were computed for each scale.

5.1.1 Reporting of internal consistency reliability

Internal consistency reliability determines the extent of reliability of a measuring instrument by checking consistency of items on the scale with each other in order to ensure the instrument

would yield the same results repeatedly (Graziano & Raulin, 2014). The reliability analysis focused on assessing the internal consistency reliability of the Personal Views Survey (PVS III-R) and the Career Adapt-Abilities Inventory (CAAI). The Cronbach's alpha coefficients for the Personal Views Survey (PVS III-R) and the Career Adapt-Abilities Inventory (CAAI) are reported below in Table 5.1 and Table 5.2 respectively.

5.1.1.1 *Reporting of scale reliability: Personal Views Survey (PVSIII-R)*

The Cronbach's alpha coefficient was used to test the reliability of the instrument in this study as it is a measure frequently used to determine the reliability of an instrument in organisational research (Cho & Kim, 2015). The alpha coefficient ranges between 1 (signifying perfect internal reliability) and 0 (signifying no internal reliability) (Babbie, 2014). A Cronbach's alpha of .80 and above is typically considered to denote an acceptable level of internal reliability, however, Cronbach's alpha of .60 is regarded as acceptable (Bryman, 2014; Tredoux & Durrheim, 2013).

Table 5.1 presents the Cronbach's alpha coefficient values of the three subscales of the PVS III-R. The control dimension obtained an alpha coefficient of .71 (high) while the commitment dimension obtained .62 (medium) for the total sample ($N = 198$). The Cronbach's alpha of overall hardiness is .88. Therefore, the internal reliability scores of the three dimensions are regarded as acceptable as they are above the .60 threshold indicating high credibility and reliability. Since the purpose of this study was not to make individual predictions based on the PVS III-R, but to investigate the relationship and broad trends between the variables, the Cronbach's alpha is within the acceptable level (Bryman, 2014; Tredoux & Durrheim, 2013).

Table 5.1: *Internal Consistency Reliability of PVS III-R*

Subscale	Cronbach's alpha	Number of items
Commitment	.62	6
Control	.71	6
Challenge	.66	6
Overall scale	.88	18

5.1.1.2 *Reporting of scale reliability: Career Adapt-Abilities Inventory (CAAI)*

Table 5.2 provides the Cronbach's alpha coefficient for each of the four subscales of the CAAI. The Cronbach's alpha coefficient scores varied from .57 to .78 for the total sample ($N = 198$). The total CAAI scale obtained a Cronbach's alpha coefficient of .88 (high), which was considered adequate since the purpose of the study was not to make individual predictions using the CAAI but to investigate the relationship between and broad trends in the variables. Despite the acceptable Cronbach's alpha, there was poor consistency in two subscales (concern and control) which recorded low reliability scores of .57 and .59 respectively. However, the reliability scores of curiosity and confidence were high and favourable at .78 and .75.

Table 5.2: *Internal Consistency Reliability of CAAI*

Subscale	Cronbach's alpha	Number of items
Concern	.57	6
Control	.59	6
Curiosity	.78	6
Confidence	.75	6
Overall scale	.87	24

5.1.2 Reporting of means, standard deviations, skewness and kurtosis

The results for the means, standard deviations, skewness and kurtosis of the PVSIII-R and the CAAI are summarised below.

The mean is an average calculated by summing the values of several observations and dividing them by the number of observations (Babbie, 2014). The advantage of the mean (M) is that the sample mean is generally a better estimate of the population mean (Rose, Spinks, & Canhoto, 2015; Tredoux & Durrheim, 2013).

Standard deviation is a measure of dispersion which is the average amount of variation around the mean (Bryman, 2014; Tredoux & Durrheim, 2013). Therefore it is the square root of the variance. According to Tredoux and Durrheim (2013) a low standard deviation indicates that the scores cluster closely around the mean, whereas a high standard deviation indicates that the scores deviate considerably from the mean.

Skewness is a measure that determines the frequency distribution of values around the mean (Graziano & Raulin, 2014; Wagner, Kawulich & Garner, 2012). The skewness of scores can be positive, negative or symmetric (normal). A positive skew value indicates that the scores are below the mean and as a result, the bump lies closer to the left (Graziano & Raulin, 2014; Rose *et al.*, 2015; Wagner *et al.*, 2012). On the contrary, a negative skew value indicates the scores are above the mean and the bump lies closer to the right (Graziano & Raulin, 2014; Rose *et al.*, 2015; Wagner *et al.*, 2012). However, a symmetric distribution (curve) indicates that the majority of the scores lie in the middle of the graph (Graziano & Raulin, 2014; Rose *et al.*, 2015). In terms of the empirical study, the data was not normally distributed.

Kurtosis measures whether data are either peaked or flat in relation to the normal distribution (Graziano & Raulin, 2014; Wagner *et al.*, 2014). A positive kurtosis value indicates positive kurtosis whereas a negative one indicates negative kurtosis (Rose *et al.*, 2015). Skewness and kurtosis values ranging between the -1 and +1 normality range are recommended for conducting parametric tests (Graziano & Raulin, 2014).

5.1.2.1 Personal Views Survey (PVSIII-R)

Table 5.3 summarises the mean standard deviations, skewness and kurtosis of each of the four subscales of the PVS-II. The means for the three dimensions (commitment, control and challenge) ranged between 2.39 and 2.59. The sample of participants obtained the highest score on *commitment* ($M = 2.59$; $SD = .40$) and the lowest mean score on *challenge* ($M = 2.39$; $SD = .51$). The overall mean for hardiness was high (above the median of 1.5) and favourable at 2.46 compared to a maximum possible score of 3. The standard deviation for overall hardiness was moderate at .44 constituting about 17.9% of the mean. The skewness values of PVS-III indicated that all the scores for the subscales (commitment, control and challenge) were negatively skewed (bounded to the right). The values ranged between -.51 and -.91, therefore skewness falls within the -1 and +1 normality range recommended for these coefficients (Gravett & Wallnau, 2011). Hardiness data was slightly skewed to the left with a low overall hardiness skewness coefficient (-.28). The kurtosis values ranged between -.09 and -.62, thereby falling within the -1 and the +1 normality range recommended for these coefficients (Graziano & Raulin, 2014). The hardiness data recorded a negative kurtosis (-1.14) indicating a high kurtosis with a flattened shape for the distribution.

Table 5.3: Means, Standard Deviations, Skewness and Kurtosis (PVSIII-R)

Construct	Mean	Standard deviation	Skewness	Kurtosis
Commitment	2.59	.40	-.91	.21
Control	2.47	.49	-.51	-.62
Challenge	2.39	.51	-.67	-.10
Total Hardiness	2.46	.44	-.28	-1.14

5.1.2.2 Career Adapt-Abilities Inventory (CAAI)

Table 5.4 summarises the means, standard deviations, skewness and kurtosis of each of the four subscales of the CAAI, as well as of the overall scale. The means of the four subscales ranged between 3.99 and 4.32. As shown in Table 5.4, the highest mean score was $M = 4.32$ ($SD = .47$) for the subscale *concern*, while the lowest mean was obtained for the subscale *curiosity* ($M =$

3.99; $SD = .64$). The overall mean for CAAI was high (above the median of 3) and favourable ($M = 4.14$) compared to a maximum possible score of 5. The standard deviation for the overall CAAI is moderate to low ($SD = .43$) which constituted about 10.4% of the mean. Skewness for the four subscales ranged between -1.06 and -1.47., thereby falling within the -1 and +1 normality range recommended for these coefficients (Graziano & Raulin, 2014; Howell, 2008). The skewness values show that all the scores for the subscales were negatively skewed (bounded to the right). Skewness for the four subscales ranged between -1.06 and -1.47., thereby falling within the -1 and 1 normality range recommended for these coefficients (Sall *et al.*, 2012). The CAAI data recorded a high and positive overall kurtosis of 4.8. Kurtosis values showed that all the subscales had a normal distribution (most scores lie in the middle of the graph).The kurtosis values ranged between 1.54 and 4.86, thereby falling within the -3 and +3 normality range (Brown, 2015).

Table 5.4: Means, Standard Deviations, Skewness and Kurtosis: CAAI

Construct	Mean	Standard deviation	Skewness	Kurtosis
Concern	4.32	.47	-1.43	4.19
Control	4.20	.49	-1.47	4.86
Curiosity	3.99	.64	-1.06	1.54
Confidence	4.04	.59	-1.46	3.81
Overall CAAI scale	4.14	.43	-1.70	4.89

In summary relating to the PVS III-R scale, commitment reported the highest mean ($M = 2.59$) and challenge the lowest ($M = 2.39$). In terms of the CAAI scale, concern reported the highest mean ($M = 4.32$) and curiosity reported the lowest mean ($M = 3.99$).

5.2 CORRELATIONS

Correlation assesses the strength and direction of relationships among variables (Graziano & Raulin, 2014). In order to investigate the relationship between the variables in this study, the descriptive statistics had to be transformed into explanatory statistics to test the research

hypotheses H01 and Ha1. The relationship between the variables was calculated by means of Spearman correlations.

The Spearman's coefficient (r) is used to calculate the direction of and strength between variables (Graziano & Raulin, 2014). For the purpose of this study, a cut-off point of $r \geq .30$ (small effect) at $p \leq .05$ was used to determine the practical significance of correlation coefficients.

5.2.1 Reporting on bivariate correlations between PVS III-R and CAAI

This section reports of the bivariate correlations between PVS III-R and CAAI variables. Table 5.5 summarises the bivariate correlations between hardiness and career adaptability attributes by indicating the significant and non-significant relationships.

Table 5.5: *Bivariate Correlations Between PVSIII-R and CAAI*

Variables	Overall hardiness	Commitment	Control	Challenge	Overall CAAI	Concern	Control	Curiosity	Confidence
Overall Hardiness	-								
Commitment	.69**	-							
Control	.96**	.68**	-						
Challenge	.78**	.49**	.58**	-					
Overall CAAI	.28**	.12	.25**	.25**	-				
Concern	.25**	.30**	.23**	.21**	.68**	-			
Control	.08	-.09	.03	.12	.74**	.40**	-		
Curiosity	.30**	.08	.28**	.26**	.85**	.38**	.48**	-	
Confidence	.24**	.08	.22**	.18*	.86**	.46**	.49**	.70**	-

Notes: $N = 198$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size)

Several significant relationships were found between PVS III-R and CAAAI. Commitment showed a significant relationship with only one CAAI attribute as indicated below:

- Concern($r = .30$; medium practical effect size $p \leq .01$)

However, Commitment showed no statistical significant relationship with the following CAAI attributes as indicated below:

- Control ($r = -.09$; small practical effect size $p \geq .05$)
- Curiosity ($r = .08$; small practical effect size $p \geq .05$)
- Confidence ($r = .08$; small practical effect size $p \geq .05$)
- Overall CAAI ($r = .12$; small practical effect size $p \geq .05$)

Several significant relationships were found between PVS III-R and CAAI. Hardiness control showed a significant relationship with the following CAAI variables:

- Concern($r = .23$; small practical effect size $p \leq .01$)
- Curiosity($r = .28$; small practical effect size $p \leq .01$)
- Confidence($r = .22$; small practical effect size $p \leq .01$)
- Overall CAAI($r = .25$; small practical effect size $p \leq .01$)

However, hardiness control showed no statistical significant relationship with the following CAAI attributes as indicated below:

- CAAI Control ($r = .03$; small practical effect size $p \geq .05$)

Several significant relationships were found between PVS III-R and CAAAI. Challenge showed a significant relationship with the following CAAI variables.

- Concern($r = .21$; small practical effect size $p \leq .01$)
- Curiosity($r = .26$; small practical effect size $p \leq .01$)
- Confidence($r = .18$; small practical effect size $p \leq .05$)
- Overall CAAI($r = .25$; small practical effect size $p \leq .01$)

However, hardiness control showed no statistical significant relationship with the following CAAI attribute indicated below:

- CAAI Control ($r = .12$; small practical effect size $p \geq .05$)

Based on table 5.5 it can be observed that the association between overall hardiness and overall CAAI was positive and small with a correlation coefficient of .28 that was statistically significant at .01.

5.3 INFERENCE STATISTICS

In this section, the stepwise hierarchical regression analysis and tests for mean differences are reported.

5.3.1 Stepwise hierarchical regression analysis

This section is relevant to research aim 2, namely to empirically investigate whether differences exist between hardiness attributes (control, commitment and challenge) as a set of composite independent variables and career adaptability attributes (concern, control, curiosity, and confidence) as a set of composite dependent variables in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.

A stepwise regression analysis was conducted using the demographical variables (age, gender, race, marital status and field of study); the hardiness subscales (commitment, control and challenge) as independent variables and the career adaptability subscales (concern, control, curiosity and confidence) as dependent variables.

The results showed that the regression model was significant ($F = 4.67$; $p = .00$; $R^2 = .11$; $\Delta R^2 = .01$; $\Delta F = 7.21$; $\Delta Fp = .00$). The adjusted R^2 value of .11 indicated that the model predicted approximately 11% (small practical effect) of the variance within the dependent variable (career adaptability concern). Table 5.6 summarises the results of the stepwise regression analysis conducted to assess whether hardiness commitment acted as significant predictor of career adaptability concern.

Table 5.6: Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Concern as Dependent Variable

								Model Summary		
Model variables	Unstandardised Coefficients		Standardised Coefficients	t	P	Collinearity Statistics		F	P	R ²
	B.	Std. Error	Beta (β)			Tolerance	VIF			
								4.67	.00***	.11
Constant	3.56	.34		10.40	.00***					
Cultural group	-.01	.13	-.01	-.08	.93	.97	1.03			
Gender	.07	.07	.07	1.03	.31	.98	1.03			
Age	-.31	.20	-.15	-1.45	.15	.43	2.33			
Marital status	-.18	.27	-.07	-.68	.50	.42	2.37			
Commitment	.36	.08	.31	4.51	.00***	.98	1.02			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results provided supportive evidence for research hypothesis Ha2: Differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.

In conclusion, the results revealed that hardiness commitment as an independent variable explained the variance in career adaptability concerns as a dependent variable. Furthermore, the demographic variables (age, gender, race and marital status) do not predict hardiness and career adaptability.

Table 5.7 summarises the results of the stepwise regression analysis conducted to assess whether hardiness commitment and challenge acted as significant predictor of career adaptability control.

Table 5.7: Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Control as Dependent Variable

								Model Summary		
Model variables	Unstandardised Coefficients		Standardised Coefficients	t	P	Collinearity Statistics		F	P	R ²
	B.	Std. Error	Beta (β)			Tolerance	VIF	2.58	.02*	.08
Constant	4.12	.37		11.15	.00***					
Cultural group	.01	.14	.01	.08	.94	.97	1.03			
Gender	.16	.07	.16	2.25	.03*	.94	1.06			
Age	-.16	.22	-.08	-.74	.46	.43	2.33			
Marital status	.03	.28	.01	.12	.90	.42	2.37			
Challenge	.24	.08	.25	3.06	.00***	.73	1.37			
Commitment	-.235	.10	-.19	-2.39	.02**	.76	1.32			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results revealed that hardiness challenge and commitment as an independent variables predicted career adaptability control as a dependent variable. Moreover, gender explained the variance in hardiness challenge and commitment as well as career adaptability control.

Table 5.8 summarises the results of the stepwise regression analysis conducted to assess whether hardiness control and commitment acted as significant predictor of career adaptability curiosity.

Table 5.8: Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Curiosity as Dependent Variable

								Model Summary		
Model variables	Unstandardised Coefficients		Standardised Coefficients	t	P	Collinearity Statistics		F	P	R ²
	B.	Std. Error	Beta (β)			Tolerance	VIF	3.83	.00***	.11
Constant	3.50	.47		7.47	.00***					
Cultural group	.01	.17	.00	.07	.95	.97	1.04			
Gender	-.10	.09	-.08	-1.16	.25	.97	1.03			
Age	-.11	.28	-.04	-.38	.71	.43	2.33			
Marital status	.09	.37	.03	.26	.80	.42	2.37			
Hardiness control	.52	.12	.40	4.29	.00***	.54	1.85			
Commitment	-.32	.15	-.20	-2.15	.03*	.54	1.85			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results revealed that hardiness control and commitment as an independent variable explained the variance in career adaptability curiosity as a dependent variable. Furthermore, the demographic variables (age, gender, race and marital status) do not predict hardiness control and commitment or career adaptability curiosity.

Table 5.9 summarises the results of the stepwise regression analysis conducted to assess whether hardiness control acted as significant predictor of career adaptability confidence.

Table 5.9: Results of the Stepwise Regression Analysis – Demographic Variables and Hardiness as Independent Variable and CAAI Confidence as Dependent Variable

								Model Summary		
Model variables	Unstandardised Coefficients		Standardised Coefficients	t	P	Collinearity Statistics		F	P	R ²
	B.	Std. Error	Beta (β)			Tolerance	VIF			
	3.44	.40		8.66	.00***			3.05	.01	.07
Constant	3.44	.40		8.66	.00***					
Cultural group	-.06	.16	-.03	-.38	.70	.97	1.04			
Gender	.11	.08	.09	1.32	.19	.98	1.02			
Age	-.38	.26	-.15	-1.44	.15	.43	2.33			
Marital status	-.11	.34	-.04	-.34	.74	.42	2.37			
Hardiness control	.27	.08	.23	3.22	.00***	.98	1.02			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results provided partially supportive evidence for hypothesis Ha2: Differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.

The results revealed that hardiness control as an independent variable explained the variance in career adaptability curiosity as a dependent variable. Moreover, the demographic variables (age, gender, race and marital status) do not predict hardiness control and commitment as well as career adaptability confidence.

5.3.2 Test for significant mean differences

This section is relevant to research aim 3 namely to assess whether significant differences exist between the subgroups of the biographical variables that act as significant moderators between hardiness attributes (control, commitment and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).

A Mann-Whitney U Test was used to test for significant mean differences regarding the variables of hardiness and career adaptability in terms of age, gender, race, marital status and field of study. Table 5.10 displays the results for the Mann-Whitney tests relating to age.

Table 5.10: Mann-Whitney U Test Scores for Age ($N = 198$)

Variable		N	Mean Rank (SD)	Mann-Whitney U	z	p
Commitment	21 years and younger	186	99.97 (.40)	1028.00	-.47	.64
	31–45 years old	12	92.17 (.47)			
Control	21 years and younger	186	99.95 (.50)	930.00	-.99	.32
	31–45 years old	12	95.46 (.43)			
Challenge	21 years and younger	186	100.50 (.51)	1031.50	-.44	.66
	31–45 years old	12	84.00 (.56)			
Total hardiness	21 years and younger	186	100.16 (.44)	992.50	-.64	.52
	31–45 years old	12	89.21 (.41)			
Concern	21 years and younger	186	100.88 (.46)	859.50	-1.34	.18
	31–45 years old	12	78.1 (.52)			
Control	21 years and younger	186	101.50 (.50)	744.50	-1.95	.05*
	31–45 years old	12	68.54 (.25)			
Curiosity	21 years and younger	186	101.33 (.65)	775.00	-1.78	.08
	31–45 years old	12	71.08 (.50)			
Confidence	21 years and younger	186	101.90 (.58)	670.00	-2.33	.02*
	31–45 years old	12	62.33 (.60)			
Total career adaptability	21 years and younger	186	102.05 (.43)	642.50	-2.46	.01**
	31–45 years old	12	60.04 (.37)			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results of the Mann-Whitney U Test (Table 5.10) reveal that no statistically significant differences were observed between different age groups and the subscales of hardiness, namely, commitment ($z = -.47$; $p = .64$), control ($z = -.99$; $p = .32$), challenge ($z = -.44$; $p = .66$) and total hardiness ($z = -.64$; $p = .52$). Moreover, Table 5.8 also indicates that no significant differences were observed between the two age groups and the career adaptability subscales, namely, concern ($z = -1.34$; $p = .18$) and curiosity ($z = -1.78$; $p = .08$). However, Table 5.10 indicates that significant differences were observed between the two age groups and the career adaptability subscale, namely control ($z = -1.95$; $p = .05$), confidence ($z = -2.34$; $p = .02$) and overall career adaptability ($z = -2.46$; $p = .01$). The p-value of age is greater than .05 ($p \geq .05$) for all the hardiness subscales, therefore age has no underlying influence on the participants' hardiness levels. Since the p-value of age is less than .05 ($p \leq .05$) for career adaptability subscales (control and confidence) as well as overall CAAI subscales, therefore age has an underlying influence on the participants career adaptability level of the aforementioned subscales.

Table 5.11 displays the results for the Mann-Whitney U Test relating to gender.

Table 5.11: Mann-Whitney U Test Scores for Gender (N = 198)

Variable		N	Mean Rank (SD)	Mann-Whitney U	z	p
Commitment	Male	84	111.75 (.42)	3759.00	-2.63	.01**
	Female	114	90.74 (.38)			
Control	Male	84	107.80 (.52)	4091.00	-1.79	.07
	Female	114	93.39 (.47)			
Challenge	Male	84	114.37 (.45)	3539.00	-3.17	.00**
	Female	114	88.54 (.53)			
Total hardiness	Male	84	109.32 (.44)	3958.50	-2.09	.04*
	Female	114	92.22 (.43)			
Concern	Male	84	95.80 (.43)	4477.00	-.79	.43
	Female	114	102.23 (.49)			
Control	Male	84	90.13 (.50)	4000.50	-1.99	.05*
	Female	114	106.41 (.48)			
Curiosity	Male	84	108.07 (.63)	4068.00	-1.82	.07
	Female	114	93.18 (.65)			
Confidence	Male	84	94.25 (.59)	4347.00	-1.11	.27
	Female	114	103.37 (.59)			
Total career adaptability	Male	84	97.25 (.43)	4599.00	-.48	.64
	Female	114	101.16 (.43)			

Notes: N = 198; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results of the Mann-Whitney U Test (Table 5.11) on gender indicates that statistically significant differences were observed between the two gender groups and the subscales of hardiness, namely, commitment ($z = -2.63$; $p = .01$), challenge ($z = -3.17$; $p = .00$) and total hardiness ($z = -2.09$; $p = .04$). However, Table 5.11 indicates that no statistically significant differences were observed between the two gender groups and the subscale of hardiness, namely, control ($z = -1.79$; $p = .07$). Table 5.11 indicates that no statistically significant differences were observed between the two gender groups and the subscales of career adaptability, namely concern ($z = -.79$; $p = .43$), curiosity ($z = -1.82$; $p = .07$), confidence ($z = -1.11$; $p = .27$) and overall career adaptability ($z = -.48$; $p = .64$). However, Table 5.11 indicates that a statistically significant difference was observed between the two gender groups and the subscale of career adaptability, namely, control ($z = -1.99$; $p = .05$).

Table 5.12: displays the results for the Kruskal-Wallis test relating to race.

Table 5.12: *Kruskal-Wallis Test Scores for Race (N = 198)*

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Commitment	African	184	98.53 (.40)	.77	2	.68
	Coloured	11	111.68 (.35)			
	Indian	3	114.17 (.87)			
Control	African	184	98.38 (.49)	1.26	2	.53
	Coloured	11	117.91 (.56)			
	Indian	3	100.67 (.73)			
Challenge	African	184	98.71 (.51)	.60	2	.74
	Coloured	11	112.32 (.46)			
	Indian	3	101.00 (.69)			
Total hardiness	African	184	98.48 (.43)	1.05	2	.59
	Coloured	11	116.68 (.49)			
	Indian	3	98.83 (.69)			
Concern	African	184	99.29 (.47)	.55	2	.76
	Coloured	11	107.95 (.36)			
	Indian	3	81.50(.88)			
Control	African	184	99.84 (.49)	3.15	2	.21
	Coloured	11	108.95 (.46)			
	Indian	3	44.17 (.33)			

Curiosity	African	184	99.52 (.64)	.43	2	.81
	Coloured	11	94.05 (.71)			
	Indian	3	118.33 (.67)			
Confidence	African	184	100.02 (.59)	.54	2	.76
	Coloured	11	88.14 (.63)			
	Indian	3	109.00 (.29)			
Total career adaptability	African	184	99.84 (.44)	.16	2	.92
	Coloured	11	97.09 (.42)			
	Indian	3	87.33 (.48)			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results of the Kruskal-Wallis test scores for race (Table 5.12) indicate that there was no statistically significant difference between the three racial groups (African, Coloured and Indian) and the subscales of hardiness and career adaptability. The level of significance ranged between .21 and .92, therefore $p \geq .05$

Table 5.13 displays the results for the Mann-Whitney tests relating to marital status.

Table 5.13: *Mann-Whitney test Scores for Marital Status (N = 198)*

Variable		N	Mean Rank (SD)	Mann-Whitney U	z	p
Commitment	Married	7	96.36 (.56)	646.50	-.15	.88
	Single	191	99.62 (.40)			
Control	Married	7	78.71 (.47)	523.00	-1.00	.32
	Single	191	100.26 (.49)			
Challenge	Married	7	86.71 (.59)	579.00	-.61	.54
	Single	191	99.97 (.51)			
Total hardness	Married	7	83.21 (.48)	554.50	-.77	.44
	Single	191	100.10 (.44)			
Concern	Married	7	93.36 (.63)	625.50	-.29	.77
	Single	191	99.73 (.46)			
Control	Married	7	61.43 (.24)	402.00	-1.80	.07
	Single	191	100.90 (.50)			
Curiosity	Married	7	62.64 (.41)	410.50	-1.74	.08
	Single	191	100.85 (.65)			
Confidence	Married	7	60.57 (.52)	396.00	-1.84	.07
	Single	191	100.93 (.60)			
Total career adaptability	Married	7	58.86 (.33)	384.00	-1.91	.06
	Single	191	100.99 (.44)			

Notes: N = 198; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results of the Mann-Whitney U test scores for marital status (Table 5.10) indicate that there were no statistically significant differences between the single and married participants in terms of the subscales of hardiness and career adaptability as the levels of significance ranged between .06 and .88, therefore $p \geq .05$

Table 5.14 displays the *Kruskal-Wallis Test Scores* for field of study.

Table 5.14: *Kruskal-Wallis Test Scores for Field of Study (N = 198)*

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Commitment	NCV Engineering Studies	12	72.00 (.46)	36.83	6	.00***
	NCV Business Studies	1	103.50			
	NCV Social & Utility Studies	41	108.89 (.43)			
	N1 – N6 Business Studies	62	71.29 (.32)			
	N1 – N6 Social & Utility Studies	10	99.35 (.28)			
	N1 – N6 Engineering Studies	65	127.63 (.40)			
	Other	7	79.43 (.38)			
Control	NCV Engineering Studies	12	114.54 (.70)	54.01	6	.00***
	NCV Business Studies	1	113.50			
	NCV Social & Utility Studies	41	107.26 (.48)			
	N1 – N6 Business Studies	62	61.94 (.36)			
	N1 – N6 Social & Utility Studies	10	96.65 (.39)			
	N1 – N6 Engineering Studies	65	131.75(.43)			
	Other	7	63.57 (.26)			

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Challenge	NCV Engineering Studies	12	146.88 (.46)	68.22	6	.00***
	NCV Business Studies	1	49.00			
	NCV Social & Utility Studies	41	111.40 (.59)			
	N1 – N6 Business Studies	62	54.67 (.37)			
	N1 – N6 Social & Utility Studies	10	100.40 (.48)			
	N1 – N6 Engineering Studies	65	128.96 (.35)			
	Other	7	78.00 (.48)			
Total hardiness	NCV Engineering Studies	12	124.50 (.58)	61.30	6	.00***
	NCV Business Studies	1	103.50			
	NCV Social & Utility Studies	41	110.63 (.45)			
	N1 – N6 Business Studies	62	57.07 (.29)			
	N1 – N6 Social & Utility Studies	10	96.60 (.32)			
	N1 – N6 Engineering Studies	65	132.09 (.36)			
	Other	7	68.14 (.14)			

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Concern	NCV Engineering Studies	12	66.54 (.34)	16.76	6	.01**
	NCV Business Studies	1	41.50			
	NCV Social & Utility Studies	41	87.49 (.41)			
	N1 – N6 Business Studies	62	96.05 (.61)			
	N1 – N6 Social & Utility Studies	10	80.15 (.29)			
	N1 – N6 Engineering Studies	65	116.62 (.34)			
	Other	7	133.93 (.38)			
Control	NCV Engineering Studies	12	129.50 (.49)	8.52	6	.20
	NCV Business Studies	1	35.50			
	NCV Social & Utility Studies	41	88.55 (.37)			
	N1 – N6 Business Studies	62	104.48 (.69)			
	N1 – N6 Social & Utility Studies	10	78.80 (.44)			
	N1 – N6 Engineering Studies	65	98.55 (.30)			
	Other	7	115.71 (.51)			

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Curiosity	NCV Engineering Studies	12	123.33 (.50)	31.48	6	.00***
	NCV Business Studies	1	66.50			
	NCV Social & Utility Studies	41	99.82 (.57)			
	N1 – N6 Business Studies	62	70.52 (.76)			
	N1 – N6 Social & Utility Studies	10	106.50 (.70)			
	N1 – N6 Engineering Studies	65	124.08 (.40)			
	Other	7	79.93 (.55)			
Confidence	NCV Engineering Studies	12	103.83 (.37)	9.45	6	.15
	NCV Business Studies	1	38.00			
	NCV Social & Utility Studies	41	91.51 (.56)			
	N1 – N6 Business Studies	62	97.57 (.78)			
	N1 – N6 Social & Utility Studies	10	92.90 (.65)			
	N1 – N6 Engineering Studies	65	112.16 (.40)			
	Other	7	56.57 (.41)			

Variable		N	Mean Rank (SD)	Chi-Square	df	p
Total career adaptability	NCV Engineering Studies	12	106.67 (.28)	12.86	6	.05**
	NCV Business Studies	1	32.00			
	NCV Social & Utility Studies	41	87.80 (.34)			
	N1 – N6 Business Studies	62	88.80 (.60)			
	N1 – N6 Social & Utility Studies	10	93.30 (.46)			
	N1 – N6 Engineering Studies	65	118.52 (.24)			
	Other	7	92.36 (.39)			

Notes: $N = 198$; *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$, $r \leq .30$ (small practical effect size), $r \geq .30 \leq .49$ (medium practical effect size), $r \geq .50$ (large practical effect size).

The results of the Kruskal Wallis test (Table 5.15) indicate that there were statistically significant differences between field of study, hardiness and career adaptability in terms of commitment, challenge, hardiness control, overall hardiness, and curiosity ($p \leq .001$); concern and overall CAAI ($p \leq .05$). However, the results of the Kruskal Wallis test (Table 5.15) indicate that there were no statistically significant differences between field of study, hardiness and career adaptability in terms of CAAI control and overall CAAI ($p \geq .05$).

The results of the of Mann-Whitney U Test as shown in Table 5.10, Table 5.11 and Table 5.13 as well as the Kruskal-Wallis test as shown in Table 5.12 and Table 5.14 provided partially supportive evidence for the research hypothesis Ha3: There are significant mean differences between the sub-groups of the biographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity and confidence).

5.4 SYNTHESIS, INTERPRETATION AND DISCUSSION

In this section, the biographical profile of the sample is discussed, including the results of the tested research hypotheses.

5.4.1 Biographical profile of sample

Participants in the sample were predominantly African female between the ages of 21 years and younger who are single and are registered full-time for N1 – N6 Engineering studies.

5.4.3 Research aim 1

The results provide supportive evidence for research hypothesis Ha1: There is a statistical significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng.

5.4.2 Sample profile: hardiness and career adaptability

In this section, the interpretation of the means will be discussed. Table 5.12 shows the highest and lowest mean for the two measuring instruments.

Table 5.15: *Summary of Means of Measuring Instruments*

	PVS III-R	CAAI
Highest mean	Commitment (2.59)	Concern (4.32)
Lowest mean	Challenge (2.39)	Curiosity (3.99)

In total, the results relating to PVS III-R indicated a relatively high level of commitment by participants, which means that the participants had a good overall perception of commitment towards their careers (Huang, 2015; Sheard, 2009).

In terms of hardiness, the high mean value for commitment suggests that participants recognized commitment as the most important variable embedded in their career paths. The sample consists of diverse groups of different age, gender, cultural group, marital status and field of study. High reliability coefficients were obtained from control subscales and the findings can therefore be interpreted with confidence.

The participants' high scores on commitment in terms of the hardiness variable suggest that the participants have a sense of dedication to themselves and their work which results in active and purposeful engagement in daily living (Coetzee & Harry, 2015; Merino-Tejedor *et al.*, 2016). Moreover, such individuals with high level of hardiness commitment tend to involve themselves fully in the many situations of life, including work, family, interpersonal relationships and social institutions (Coetzee & Harry, 2015; Huang, 2015). Commitment indicates the determination and dedicated attitudes that are required by undergraduate students to successfully complete a long-term academic project that requires an intellectual investment (Huang, 2015; Sheard, 2009; Sheard & Golby, 2007).

The low mean value for challenge indicates that the participants consider challenge as less important and they are less likely to take responsibility for their careers as they are not cognisant of the fact that they are in charge of their career success (Huang, 2015). As the majority of the

participants are 21 years and younger, they are in the establishment phase of their careers therefore they might not yet feel in control and ready to face their career challenges (Greenhaus *et al.*, 2010; Maddi *et al.*, 2012). The standard deviation of challenge is the highest when compared to the other subscales, which indicates that some participants were very eager to face difficult experiences as they regarded them as opportunities for personal growth rather than potential threats to security while others were only slightly, if at all, challenged by circumstances to build their careers. Moreover, the mean value for challenge is not significantly lower than the others which also confirms the standard deviation in that some participants regard challenge and control as important while others consider commitment to be more important than challenge and control.

With regard to career adaptability attributes, the overall results of CAAI indicated a relatively high level of concern, which means that the participants regard concern as the most important variable embedded in their career paths. The participants' high score on concern suggests that the participants are fully aware of and positively oriented to plan for their vocational future (Coetzee & Harry, 2015; Huang, 2015).

The low mean value on curiosity shows that the participants were less eager to explore their environment by seeking information and taking risks in order to gain new knowledge and competencies (Negru-Subtirica & Pop, 2016). The findings are consistent with prior research pointing out that career curiosity is a multi-faceted adapt-ability, in that an individual's inquisitiveness can be distinct from or even hinder his/her career pursuits (Hirschi *et al.*, 2015). The low score on curiosity may be that other types of career-relevant activities (e.g., extra-curricular activities, volunteering, direct work experiences) are more valuable for fostering this specific adapt-ability (Negru-Subtirica & Pop, 2016).

5.4.3.1 *Interpretation of correlations between PVS III-R and CAAI*

According to the results (Table 5.5), several statistical significant relationships were found between the attributes of hardiness and career adaptability. The overall hardiness variable was significantly related to overall career adaptability. The results are consistent with research conducted by Ferreira (2012) and Harry (2014) which found that individuals who perceived themselves as being concerned about their vocational future were adaptive, proactive individuals

who displayed curiosity to explore themselves and future scenarios and were confident about pursuing their career aspirations.

The study found negative associations between commitment and career adaptability control which suggests that even those participants who were concerned, confident and curious about their future may find it difficult to control their careers. However, the high scores in commitment and challenge indicate the ability to alleviate the negative effects of stressful situations in order to succeed in their career dispositions. These results are consistent with the findings of (Ferreira, 2012; Harry, 2014) that individuals often view stressful events as meaningful and interesting and perceive stressors as changeable.

5.4.4 Research aim 2

The results provided supportive evidence for research hypothesis Ha2: Differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.

5.4.4.1 *Interpretation of stepwise hierarchical regression analysis (demographical variables, hardiness and career adaptability)*

With regard to hardiness, the study revealed in Table 5.6 that commitment significantly and positively predicted career adaptability concern. The results suggest that the demographic variables (age, gender, race, marital status and field of study) do not predict hardiness commitment and career adaptability concern.

The results revealed in Table 5.7 that hardiness challenge and commitment significantly and positively predicted career adaptability control. In terms of the demographic variables, gender significantly and positively predicted hardiness challenge and career adaptability control. The finding is in line with Coetzee and Harry's (2015) study, which found that gender significantly predicts career adaptability, and that women had significantly higher levels of career adaptability than men did. This could be attributed to the employment equity legislation which places women at the centre of the transformation agenda and opens new opportunities for them.

In terms of Table 5.8, the results revealed that hardiness control and commitment significantly and positively predict career adaptability curiosity. However, all the demographic variables (age, gender, race, marital status and field of study) do not predict hardiness control, commitment and career adaptability curiosity.

The results revealed in Table 5.9 that hardiness control significantly and positively predict career adaptability confidence. The demographic variables (age, gender, race, marital status and field of study) do not predict hardiness control and career adaptability curiosity.

In total, the findings suggest that the demographic variables (age, race, marital status and field of study) do not predict hardiness and career adaptability.

In light of these findings, it is reasonable to conclude that an individual's hardiness and career adaptability cannot be predicted based on different demographical variables, namely age, race, marital status and field of study. However, as the demographic variable gender significantly predicted the participant's hardiness and career adaptability it can be concluded that this study corroborates the research findings that women display higher levels of career adaptability than their male counterparts (Coetzee & Harry, 2015; Ferreira, 2012; Havenga, 2012; Zhang, 2011). Furthermore, the study found that hardiness attributes (commitment, control and challenge) do predict career adaptability. The results of this study suggest that adaptive readiness in individuals enhances their willingness to develop essential career capacities in the form of the career adaptabilities of concern, control, curiosity and confidence (Tolentino *et al.*, 2014).

5.4.5 Research aim 3

The results provided partial supportive evidence for research hypothesis Ha3: There are significant mean differences between the sub-groups of the biographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity and confidence).

6.4.5.1 *Interpretation of test for mean differences*

The study revealed that there was no significant difference on the hardiness subscales between the different age groups. The results therefore, indicate that an individual's hardiness is not

moderated by age. With regard to career adaptability, the results of this study found a significant difference between the different age groups on control, confidence and overall career adaptability. The results therefore, indicate that an individual's career adaptability is influence by age. The results further indicate that career adaptability is higher on participants who are aged 21 years and younger. The findings are supported by Ismail *et al.* (2016) who found a significant positive relationship between a young adult's age and career adaptability.

With regard to gender, the results revealed that there were significant differences between male and female in terms of hardiness in the following subscales; commitment, challenge and overall hardiness. The results therefore, indicate that males reported higher levels of overall hardiness than females which imply that males are more resilient to career challenges. Contrary to the research by Coetzee and Harry (2015), this study found a significant relationship between gender and hardiness amongst TVET college students. The results are in line with the research by Ferreira (2012) and Harry (2014) that men showed higher level of hardiness compared to women which suggests that men are more resilient than women in terms of their careers.

The results found a significant difference between male and female in terms of career adaptability, But only on control. The results indicate that males reported high levels of adaptability compared to females which signifies that males take charge of their careers. However, the results indicate that gender does not moderate career adaptability amongst TVET college students. The results are in line with a research by Ismail *et al.* (2016) that gender did not have a significant main effect on overall career adaptability. The results of this study corroborates research findings of Coetzee and Harry (2015) and Ferreira (2012) as well as Havenga (2012) which also indicated that women displayed higher levels of career adaptability than men.

The study revealed that no significant difference was observed between hardiness and career adaptability in terms of the three cultural groups (African, Coloured and Indian). The results indicate that race does significantly predict the relationship between hardiness and career adaptability. The results of this study are consistent with that of Harry (2014) and Ferreira (2012), that race did not have any significant effect on resiliency related behavioural capacities. However black women tend to have higher levels of career adaptability (Ferreira, 2012).

According to the results of this study, no significant difference was observed between hardiness and career adaptability in relation to marital status. The results therefore, indicate that marital

status does not significantly predict the relationship between hardiness and career adaptability. Previous research about hardiness and career adaptability found that married individuals tend to have higher levels of career adaptability; however such findings could not be confirmed by this study (Ferreira, 2012; Harry, 2014).

The results further indicated that a significant difference was observed on field of study in relation to hardiness and career adaptability. The results indicate field of study as a significant predictor to the relationship between hardiness and career adaptability. The results imply that individuals' ability to succeed in their careers is dependent on their career choice. However, no other study was found that tests significant mean difference in terms of field of study.

5.5 SUMMARY OF DECISIONS REGARDING THE RESEARCH HYPOTHESES

Table 5.13 presents the overview of the research hypotheses that were formulated for the purposes of this research study, the statistical procedures that were performed to test the research hypotheses and the final decision reached.

Table 5.16: *Summary of Decisions Regarding the Research Hypotheses*

Aim	Research hypothesis	Supportive evidence
1	H01: There is no statistical significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng.	No
	Ha1: There is a statistical significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng.	Yes
2	H02: Differences do not exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.	No
	Ha2: Differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) among TVET college students in Gauteng.	Yes
3	H03: There are no significant mean differences between the sub-groups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).	No
	Ha3: There are significant mean differences between the sub-groups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).	Yes

5.6 CHAPTER SUMMARY

This chapter discussed the descriptive, correlational and inferential statistics relevant to the study in order to integrate the findings of the literature review with the findings of the empirical research study that was conducted. Chapter 5 thus addressed the following research aims of the study:

Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng .

Research aim 2: To empirically investigate whether differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.

Research aim 3: To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).

Research aim 4: To formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings.

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter discusses the conclusions, limitations and recommendations of this research study. The chapter addresses research aim 4, namely to formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings.

6.1 CONCLUSIONS

This section focuses on the conclusions drawn from the literature and empirical studies based on the aims of the research as outlined in Chapter 1.

6.1.1 Conclusions relating to the literature review

The general aim of this study was to investigate whether a relationship exists between hardiness (independent variable) and career adaptability (dependent variable). The general aim was achieved by addressing and achieving the specific aims of the study.

Conclusions were drawn in terms of each of the specific aims regarding the relationship dynamics between hardiness and career adaptability.

6.1.1.1 *Research aim 1: To conceptualise the career development and career support practices of students in the 21st century.*

The first aim, namely to conceptualise the career development and career support practices of students in the 21st century was achieved in Chapter 2.

(a) Conclusions relating to the evolution of careers in the 21st century

The literature indicated that career development has advanced over time. According to Amundson *et al.*, (2014) individuals are living in a time of unprecedented change in personal, economic and social life. Careers in the 21st century are highly flexible; therefore individuals should take more responsibility in their career management (Rodrigues *et al.*, 2015; Supeli & Creed, 2016; Zhang *et al.*, 2015). The change in career development necessitates that individuals proactively plan

and manage their careers (Gubler *et al.*, 2014; Lent, 2013; Presbitero, 2015). In order for individuals to successfully plan their careers, they should be the drivers of their vocational development rather than the organisations (Donohue, 2014). On the basis of the literature, a protean and boundaryless career is the career pattern for the 21st century (DiRenzo *et al.*, 2015; Rodrigues *et al.*, 2015; Zhang *et al.*, 2015).

Modern-day careers are defined as boundaryless or protean, which erodes the notion of having a career with a single organisation until retirement but rather implies frequent career changes which in turn require greater levels of career adaptability (Lent, 2013; Savickas, 2011; Uy *et al.*, 2015). Researchers have found that self-directed careers enhance career growth, career self-management and subjective career success (De Vos & Van der Hiejden, 2008; 2015; Rodrigues *et al.*, 2015; Waters *et al.*, 2014). Furthermore, when individuals take responsibility for their careers it leads to higher career satisfaction and greater work-life balance (DiRenzo *et al.*, 2015; Hermann *et al.*, 2015). This suggests that a self-directed career attitude could have a positive impact on an individual's career and his/her life in general (Zhang *et al.*, 2015). According to Zhou *et al.* (2016) individuals with a high level of work-life balance in goals will also display a high level of career adaptability.

The emergence of protean and boundaryless careers reflects a new approach to careers in which individuals act as agents of their career success (Rodrigues *et al.*, 2015; Supeli & Creed, 2016). Furthermore, as individuals lead their career development it entails that they have to engage in a range of career self-management activities to create options which allow them to realise their personal career goals and enhance their employability (DiRenzo *et al.*, 2015). One of the self-management attitudes is proactivity, which pertains to individuals taking the initiative to make plans regarding their careers goals and turn the plans into reality (Presbitero, 2015). Such self-management behaviour can influence career success according to how well a career plan is implemented (Rodrigues *et al.*, 2015). The ability of individuals to proactively plan and enact their career goals is particularly important given the turbulent economic changes that are happening in organisations (Presbitero, 2015).

Thus, it is essential for individuals to be able to adapt promptly to the changes in the nature of careers in the 21st century, be accountable for their career development and learn continuously in order to enhance their employability or remain employable in their current organisations (Were, 2015). Furthermore, individuals should be proactive towards their careers by drawing on their

career self-management skills and career resilience to sustain their employability and influence their career success (Chopra & Rodriques, 2016; DiRenzo *et al.*, 2015; Donohue, 2014; Mathur, 2016; Presbitero, 2015).

(b) Conclusion relating to TVET colleges

The literature indicated that students in TVET colleges should be moving with the career changes of the 21st century for them to succeed in their careers aspirations. Vocational Education and Training (VET) is the entry point to a vocational career and is characterised by a high risk of failure which causes many individuals to feel as if they have made a wrong career choice (Volodina *et al.*, 2015; Yi *et al.*, 2015). In a country like Germany, successful graduation from VET is a key requirement to enter the world of work (Beicht & Walden, 2013). The ability to succeed in TVET is also a goal criterion from both the economic and the labour market perspectives (Garraway *et al.*, 2015; Volodina *et al.*, 2015).

However, college students become discouraged in the pursuit of their educational and career goals. Research has shown that college students are experiencing increasing levels of stress and feelings of hopelessness which lead to high dropout (Abdollahiet *al.*, 2015; Constantine, Wilton, & Caldwell, 2003; Rice *et al.*, 2006; Volodina *et al.*, 2015). This reality in many college students' lives can interfere with their success in preparing to enter the world of work which is characterised by rapid and unpredictable changes, a high demand for personal responsibility and self-determination, and an expectation that people should be both agentic and adapt flexibly to new challenges without losing their core identities (Beicht & Walden, 2013; Volodina *et al.*, 2015).

In a study conducted among Chinese undergraduates, it was found that the career adaptability attributes; namely concern, control, curiosity, and confidence have a moderate relationship with professional competence (Guo, 2014). Among a sample of United States undergraduates, it was found that career adaptability was positively related to career decision self-efficacy, and as a result students high on career adaptability felt more efficacious in making career decisions (Douglass & Duffy, 2015). Furthermore, it was also found that the career adaptability resource of optimism predicted academic adaptation among undergraduates over time (Perera & McIlveen, 2014). According to Duffy *et al.*, (2015), undergraduates with high levels of career adaptability are more likely to be employed post-graduation, are more efficacious in making career decisions and consistently tend to be more competent and optimistic about their careers.

Thus, it is important not only to assist college students to find ways to increase the types of educational and vocational skills (which include office administration, hospitality services, art and design, engineering, information technology etc.) that can help them reach their goals, but also to enhance their hardiness and career adaptability as they continue to pursue their educational and career dreams.

6.1.1.2 *Research aim 2: To conceptualise and explain the constructs; hardiness and career adaptability from the theoretical perspective models in the literature.*

The second aim, namely to conceptualise and explain the constructs; hardiness and career adaptability from the theoretical perspective models in the literature, was achieved in Chapter 3.

(a) Conclusion relating to hardiness

According to the literature study, hardiness is a generalised style of functioning which is characterised by a strong sense of commitment, control and challenge that serves as a significant buffer against stressful life events (Abdollahi *et al.*, 2015; Cooper *et al.*, 2014; Lyons *et al.*, 2015; Hystad *et al.*, 2010; Zhang, 2011). The concept of hardiness describes the personalities of people who have the ability to view stressful situations in a positive way and regard difficult circumstances as challenges that can be overcome (Huang, 2015). Hardiness was found to be one of the significant factors that protect one's physical and psychological health when faced with adverse situations and is becoming one of the fundamental ingredients of personal wellbeing (Lyons *et al.*, 2015).

The hardiness trait consists of three attitudes, namely commitment, control and challenge (Kobassa, 1979a; 1979b). Commitment, enables individuals to view potentially stressful situations as meaningful and interesting, sees stressors as changeable (control) and regards change as a normal feature of life (challenge) (Kobasa *et al.*, 1982). Hardy individuals have a high sense of life and work commitment, a greater feeling of control over what happens to them and are more open to change and challenges in life (Bartone *et al.*, 2009). The hardiness construct examines the reasons why some individuals, even under stressful conditions, are able to deal

with problems, and why some individuals in non-stressful conditions are not able to deal with problems (Abdollahi, *et al.*, 2015).

The literature also indicates that demographic variables such as age, gender, race and marital status have an impact on the development of hardiness. The ability of students in TVET colleges to successfully develop their level of hardiness when confronted by adverse situations would enable them to develop relevant psychological strengths to later cope with career challenges (Tolentino *et al.*, 2014; Zacher, 2014; Zhou *et al.*, 2016).

(b) Conclusion relating to career adaptability

The following conclusions can be drawn:

Career adaptability is a core construct in the field of vocational psychology and a coping resource that individuals might activate in order to plan, explore and decide about their goals (Brown & Lent, 2016). Career adaptability is a resiliency resource that individuals need in order to adapt and cope with career transitions and traumas in stressful times and environments (Yang *et al.*, 2015). According to Savickas (1997) the career adaptability model is comprised of the following core dimensions, namely career planning, decision making, career exploration and career confidence. These attributes facilitate an individual's career development and career success.

Career adaptability consists of four attributes or subscales which are namely, concern, control, curiosity, and confidence (Duffy *et al.*, 2015; Nota *et al.*, 2014; Savickas, 1997; 2005). The four main resources (also known as the 4Cs) characterise adaptability, and they represent the problem-solving and coping approaches used by individuals to integrate the self-concept into their work role (Nota *et al.*, 2014)

According to the literature, it can further be concluded that the career adaptability of individuals differs as a result of demographic variables such as age, gender, race, marital status and job level (Coetzee & Harry, 2015; Coetzee & Stoltz, 2015; Griffin, 2015; Ismail *et al.*, 2016).

6.1.1.3 *Research aim 3: To identify and explain the relationship between hardiness and career adaptability in terms of the theoretical models of these constructs.*

The third aim, namely to identify and explain the relationship between hardiness and career adaptability in terms of the theoretical models of these constructs was achieved in Chapter 3.

According to the literature, hardiness is positively related to career adaptability (Coetzee & Harry, 2015; Ferreira, 2012; Harry, 2014). The hardiness attributes (commitment, control and challenge) help individuals to gravitate towards active coping strategies such as problem-focused coping and support seeking which in turn strengthens their career adaptability (Ferreira, 2012). In a study by Coetzee and Harry (2015) the hardiness attributes of control and challenge were found to be important traits for enhancing the career adaptability of individuals.

Coetzee and Harry (2015) postulate that individuals' career adaptability can be fostered by strengthening their hardiness. The career adaptability attributes (concern, control, curiosity, and confidence) are significantly related to the hardiness attributes (Harry, 2014). According to Nilforooshan and Salimi (2016) individuals who are adaptive show greater sense of concern over their careers and as a result they become involved and have control over it. Furthermore, the individuals are curious and explore themselves to develop enough confidence. As a result, such individuals become committed to their careers and view challenges as normal (Harry, 2014). Thus career adaptability plays a pivotal role in career development as it facilitates successful adjustment and proactive career behaviour (Coetzee & Harry, 2015; Merino-Tejedor *et al.*, 2016; Savickas & Porfeli, 2012; Tolentino *et al.*, 2014).

6.1.1.4 *Research aim 4: To conceptualise the effect of the demographical variables (age, gender, race, marital status and field of study) on the relationship between hardiness and career adaptability.*

The fourth aim, namely to conceptualise the effect of the demographical variables (age, gender, race, marital status and field of study) on the relationship between hardiness and career adaptability was achieved in Chapter 3.

(a) *Conclusion relating to age*

According to the literature, many researchers found that younger participants scored higher on hardiness which suggests that they can handle and maintain their own destiny (Abdollahi *et al.*, 2015; Ferreira, 2012; Harry, 2014; Latif, 2010). According to Harry (2014) age significantly influence individuals' hardiness commitment and control. Furthermore, it was found that individuals who are 25 years and younger tend to display excitement towards work and learning compared to those who are older than 25 years of age (Harry, 2014). With regard to career adaptability, the literature reported age differences in control, curiosity, concern and cooperation (Griffin, 2015; Zacher, & Griffin, 2015). Ismail *et al.* (2016) found a significant positive relationship between a young adult's age and career adaptability. However, Rossier *et al.* (2012) found that age in general seems to have no impact on people's career adaptability.

It can therefore be concluded based on the literature that there are conflicting findings on effect of age between hardiness and career adaptability.

(b) *Conclusion relating to gender*

According to the literature, female participants achieved significantly higher scores than the males on hardy commitment and had a stronger sense of managing their emotions (Coetzee & Harry, 2015). However, in total, the research found no significant relationship between gender and hardiness in the call centre environment (Coetzee & Harry, 2015). The findings of Coetzee and Harry corroborate with that of Creed *et al.*, (2013) that gender was not significantly related to hardiness. The findings of Coetzee and Harry (2015) are contrary to that of Latif (2010) who found that males showed higher levels of hardiness than females in the call centre environment. The findings of Latif, 2010 are in line with that of Abdollahi *et al.* (2015); Ferreira (2012); and Nezhad and Besharat (2010) that males scored higher on the hardiness dimension of commitment to careers than females, which suggest that males are more committed to their careers than females.

According to Harry (2014) female participants appeared to be far more career adaptable than the male participants. However, gender did not have a significant main effect on overall career adaptability (Ismail *et al.*, 2016).

It can therefore be concluded that based on the literature, there are conflicting findings on the impact of gender on hardiness and career adaptability (Abdollahi *et al.*, 2015; Coetzee & Harry, 2015; Harry, 2014; Ismail *et al.*, 2016).

(c) *Conclusion relating to race*

With regards to race, the literature reported that race did not show any significant effect on hardiness (Abdollahi *et al.*, 2015; Harry, 2014). However, in research conducted by Ferreira (2012) and Latif (2010), it was found that black women revealed higher levels on the hardiness dimension of challenge, which suggests that they are motivated and thrive on challenges such that they become catalysts in their environment and will be more committed to the organisation.

In terms of career adaptability, blacks showed higher levels of career adaptability than their white counterparts (Coetzee & Stoltz, 2015). According to Ferreira (2012) black women scored higher on control which suggests that they tend to be in control of their careers. However, no significant effects were observed between race and career adaptability (Harry, 2014).

It can therefore be concluded that based on the literature that there are different findings on the influence of race between hardiness and career adaptability.

(d) *Conclusion relating to marital status*

With regard to marital status, the literature reported that married participants displayed higher levels of overall hardiness, specifically commitment towards the organisation or their careers (Ferreira, 2012; Harry, 2014). In terms of career adaptability, married participants were found to be more adaptable to their careers in curiosity and cooperation (Ferreira, 2012). However, no significant effects were observed between race and career adaptability (Harry, 2014).

It can be concluded therefore that based on the literature, marital status has a significant effect on hardiness whereas there are opposing findings on the impact of marital status on career adaptability.

(e) *Conclusion relating to field of study*

There is paucity of research about the influence of field of study on hardiness and career adaptability.

6.1.2 Conclusions relating to the empirical study

The empirical aim of the study was to carry out four principal tasks:

- (1) To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (control, commitment and challenge) as a set of composite independent variables and career adaptability attributes (concern, control, curiosity, and confidence) as a set of composite dependent variables in a sample of respondents studying at TVET Colleges in Gauteng.
- (2) To empirically investigate whether differences exist between hardiness and career adaptability in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents.
- (3) To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence).
- (4) To formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings.

The statistical results provided supportive evidence for the research hypothesis and were reported in chapter 5. The findings, discussions and conclusions on each of the research aims are presented in the following section.

6.1.2.1 *Research aim 1: To conduct an empirical investigation into the statistical interrelationships between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence) in a sample of respondents studying at TVET Colleges in Gauteng. This was achieved by empirically testing research hypothesis Ha1.*

Considering the fact that there has been no other empirical study conducted on the relationship between hardiness and career adaptability among students in TVET colleges in South Africa, it is necessary to exercise caution when interpreting the current findings in terms of practical implications without any further research.

(a) *Conclusions relating to the empirical relationship between hardiness and career adaptability.*

On the basis of the empirical results, the following conclusions can be drawn:

- Individuals, TVET college students who are committed to their careers displayed high levels of concern about their vocational future.
- Individuals, TVET college students who show high levels of hardiness control display a high sense of career adaptability in terms of the attributes (concern, control, curiosity, and confidence) to their careers.
- The findings also suggest that individuals, TVET college students who are fully adaptable are proactive individuals with high curiosity to explore themselves and future scenarios and are confident about pursuing their career aspirations.
- Individuals, TVET College students, who score high on hardiness, are able to assess stressors that they encounter which in turn limits their negative effect.
- Individuals, TVET college students who are committed to their careers show low levels of career adaptability control which suggests that even those participants who are concerned, confident and curious about their future may find it difficult to control their careers.

6.1.2.2 *Research aim 2: To empirically investigate whether differences exist between hardiness attributes (commitment, control and challenge) and career adaptability (concern, control, curiosity, and confidence) in terms of the demographical variables (age, gender, race, marital status and field of study) as manifested in the sample of respondents. (This research aim relates to research hypothesis 2)*

The results of the empirical study displayed partial supportive evidence for Ha2: There is a statistically significant positive interrelationship between the constructs of hardiness and career adaptability on students studying at TVET Colleges in Gauteng.

The results indicated that the hardiness subscales (commitment, control and challenge) acted as significant predictors of the career adaptability subscales (concern, control, curiosity, and confidence). In terms of the demographic variables, the results showed that only gender acted as predictor of the relationship between hardiness and career adaptability confidence which implies that females exhibit a clearer sense of direction, a more dynamic approach to demanding situations and a higher sense of self-belief and involvement in their lives than males.

6.1.2.3 *Research aim 3: To assess whether significant differences exist between the subgroups of the demographical variables that act as significant moderators between hardiness attributes (commitment, control and challenge) and career adaptability attributes (concern, control, curiosity, and confidence). (This research aim relates to research hypothesis 3).*

The results of the empirical study displayed partial supportive evidence for Ha3: There are significant mean differences between the sub-groups of the biographical variables that act as significant moderators between hardiness construct and career adaptability attributes (concern, control, curiosity, and confidence).

The results indicated that there was a statistically significant difference between age groups and career adaptability control, confidence and overall CAAI. The participants aged 21 years and younger scored higher on the career adaptability control, confidence and overall CAAI compared to their older counterparts which implies that age moderates career adaptability. Furthermore,

younger participants (21 years and younger) have a greater sense of career adaptability than their old counterparts.

With regard to gender, the study found significant differences between male and female in terms of hardiness in the following subscales; commitment, challenge and overall hardiness. The male participants displayed higher levels of hardiness commitment, control and challenge in their careers than their female counterparts. This could mean that the males were more committed to and embedded in their careers. The female participants displayed higher levels of concern, control, and confidence which suggest that female participants appeared to be far more adaptable in their careers than the male participants.

With regard to race, the results of the empirical study indicated that there was no statistically significant difference between race groups on the subscales of hardiness and career adaptability. However, the Coloured cultural group scored high in all the hardiness subscales (commitment, control and challenge) as well as career adaptability concern and control. Thus, race does not moderate the relationship between hardiness and career adaptability.

With regard to marital status, the results of the empirical study indicated that there was no statistically significant difference between single and married participants on the subscales of hardiness and career adaptability. However, the singles scored high in all the hardiness subscales (commitment, control and challenge) as well as career adaptability subscales (concern, control, curiosity, and confidence). The high score by the singles can be attributed to the number of participants, as single comprised 96% of the overall participants. Thus, marital status does not moderate the relationship between hardiness and career adaptability.

With regard to the field of study, the results of the empirical study indicated that there was a statistically significant difference between the different fields of study and the hardiness subscales (commitment, control and challenge) as well as career adaptability concern and curiosity. The results indicate that field of study moderates the relationship between hardiness and career adaptability.

In conclusion, individuals from different age groups, gender and field of study differ significantly in terms of overall career adaptability. According to the result, race and marital status had no significant difference in terms of hardiness and career adaptability.

6.1.2.4 *Research aim 4: To formulate conclusions and recommendations for the discipline Human Resource Management regarding career development practices for TVET College students and possible future research based on the research findings. (This research aim relates to research hypothesis 4)*

The empirical findings provide insight into the relation dynamics between hardiness and career adaptability. The information derived from the findings may add a broader perspective on how individuals' hardiness influences their ability to adapt to their careers. The implications of the empirical relationship between hardiness and career adaptability assisted in providing recommendations for career counsellors and HR practitioners on how to provide meaningful guidance in terms of career development practices that will enhance the two constructs. The relationship between hardiness and career adaptability outlines the nature of intervention that is necessary to facilitate the development of hardiness in order for individuals to successfully adapt to their careers. Furthermore, the empirical relationship in between two constructs could be used by career counsellors and HR practitioners to assist individuals to develop higher levels of hardiness which may in turn enhance career adaptability.

At college level, Career counsellors should come up with career development interventions for students that will enhance their hardness and career adaptability attributes. Such intervention should capacitate students on the importance of the attributes and how to improve their hardiness in order to be adaptable in their careers. Furthermore, the career development interventions should eliminate all forms of career uncertainties in order to enable students to be decisive about their different careers and stage developmental needs for them to succeed in their career pursuit.

6.1.3 Conclusion relating to central hypothesis

The central hypothesis (Chapter 1) stated that a relationship exists between hardiness and career adaptability attributes. This hypothesis further stated that individuals' hardiness and career adaptability differ based on age, gender, race, marital status and field of study.

The literature review and the empirical study provided partially supportive evidence of the central hypothesis: therefore the central hypothesis is accepted.

6.1.4 Conclusions relating to contributions to the field of human resource management

The findings in the literature review contributed to the field of human resource management, in particular, the relationship between hardiness and career adaptability. The literature provided insight on career development in the 21st century. The study also contributed new insight by providing relevant information on the relationship between hardiness and career adaptability in relation to TVET college students in a South African context.

The statistical relationships between hardiness and career adaptability provided insight into the importance of hardiness for individuals to effectively adapt to whatever career challenges they may encounter. The correlation analysis showed that overall hardiness was significantly related to overall career adaptability. The stepwise regression analysis findings suggest that gender does not predict hardiness and career adaptability. The test for significant mean difference found significant differences between age and overall CAAI; gender and overall hardiness; field of study with overall hardiness and overall CAAI

These findings of the empirical study provided new information on the relationship between hardiness and career adaptability amongst TVET college students. Furthermore, the findings can be used by Career counsellors and HR practitioners to develop hardiness attributes of students and employees, which in turn may enhance career adaptability, thus enabling them to succeed in their careers.

Although the findings have contributed new insight into the relationship between hardiness and career adaptability in relation to TVET college students, the usefulness of the study is limited to the demographic variables of the sample. As a result, the findings of the study cannot be generalised to a broader population or a sample with different demographics.

6.2 LIMITATIONS

The limitations of the literature review and the empirical study are discussed in this section.

6.2.1 Limitations of the literature review

The following limitations were encountered in the literature review:

The exploratory research of the relationship between hardiness and career adaptability was limited to the research literature on these two constructs that is currently available.

By utilising the revised Personal Views Survey (PVS III-R) of Maddi and Khoshaba (2001), the study was limited to the hardiness attributes; commitment, control and challenge. Furthermore, by utilising the Career Adapt-Abilities Inventory of Savickas and Porfeli (2012) to measure career adaptability, the study was limited to concern, control, curiosity, and confidence.

Although there is broad research on hardiness and career adaptability, there is still a shortage of research in South Africa about the relationship between the two constructs in relation to TVET college students. Furthermore, most of the studies that were conducted on hardiness and career adaptability focused on employees rather than students.

6.2.2 Limitations of the empirical study

The limitation of the empirical study was that a larger sample which is more representative in terms of age, gender, race and marital status groups would have been preferable. The sample size of 198 was not necessarily large enough as only three colleges in Gauteng were approached and voluntarily participated in the study. The sample was also limited to TVET college students who were predominantly single, African females aged between 21 years and younger who were in their early career development stage, thus the results could not be generalised to a broader population or a sample with different demographics.

In addition, a convenience sample was used, which reduced the sample size, and also further minimised the generalisation of the findings. Furthermore, the potential risk of common method bias should be considered because of the fact that the questionnaires utilised a self-report methodology. The measuring instruments; the PVS III-R by Maddi and Khoshaba (2001) and the CAAI by Savickas and Porfeli (2012) were dependent on the respondents' self-awareness and personal perceptions, which could potentially have affected the validity of the results, as a self-

report methodology was used. However, acceptable internal consistency reliabilities were reported for the two measuring instruments.

Despite the above-mentioned limitations, it can be concluded that the study shows promise for investigating the variables that influence hardiness and career adaptability in relation to TVET college students.

6.3 RECOMMENDATIONS

Based on the findings, conclusions and limitations of this study as well as recommendations for human resource management and further research in the field are highlighted below.

6.3.1 Recommendations for the field of human resource management

The main aim of the study was to investigate whether any relationship exists between hardiness and career adaptability amongst TVET college students. Furthermore, the study aimed to determine whether students of different ages, gender, race, marital status and field of study differ significantly in terms of their hardiness and career adaptability.

The empirical study confirmed the significant relationship between hardiness and career adaptability attributes. Furthermore, the research results provided evidence of the moderating role of gender as a predictor of hardiness challenge and commitment as well as career adaptability control. Therefore, Human resource practitioners and career counsellors should engage in interventions to facilitate the development of hardiness in order to enhance the career adaptabilities attributes for the employees to succeed in their career development. The core of the interventions should be to develop the hardiness attributes which will, in turn, enhance career adaptability.

Based on the research results on the relationship found between hardiness and career adaptability, the following recommendations were made:

- The results of the empirical study on the relationship between hardiness and career adaptability may be used by Career Counsellors and HR practitioners to assist individuals to develop the attributes that are lacking in order to successfully adapt to their careers.

- Career Counsellors and HR practitioners should provide meaningful support to students and employees by developing the hardiness attributes; commitment, control and challenge and career adaptability through the enhancement of their career concern, control, curiosity and confidence.
- Individuals should be supported in their career development and career counselling, which should help them to gain profound insight, improve their own personal outlook and to manage their own career challenges appropriately.
- Organisations should ensure that the tasks and responsibilities that employees performs capacitate them with the relevant skills and experience that are aligned to their personal and professional growth needs in order to successfully overcome career challenges.
- Organisations could develop a career development framework that will empower employees with coping strategies to implement when faced with career challenges. This would enable the employees to cope with stressful circumstances and see a challenge as a stepping stone to career success.
- Career adaptability resources can be enhanced through the facilitation of career interventions such as time perspective workshops, which promote future orientation and planfulness (concern), information-seeking activities (curiosity), self-esteem enhancement (confidence), and decision-making training (control) (Cai *et al.*, 2015; Tolentino *et al.*, 2014).
- Organisations could use the Personal Views Survey III-R (PVS III-R) and Career Adaptability Inventory (CAAI) to help individuals identify the psychological career competencies that affect their career choices during individual career life stages.

6.3.2 Recommendations for further research

The study was limited in terms of its sample size and the participants were predominantly African, female, single and between the ages of 21 years and younger. In order to enhance the external validity of the research results, further research with a larger sample which is representative in

terms of demographic variables is recommended. The sample should be representative in terms of different ages, genders, races, marital status and field of study, which would provide a better representation of different levels of hardiness and career adaptability. The use of different research methodologies, both qualitative and quantitative, is recommended as it could heighten the understanding of the relationship between hardiness and career adaptability.

There is also a need for more research on hardiness and career adaptability of students in TVET colleges, especially in South Africa. Further research would be beneficial for career counselling as it would provide direction to students when making career-related decisions on the basis of their capacities to interpret their identity and motivators into job opportunities that would match their personal requirements (Bell, 2016). It is recommended that future longitudinal studies should be conducted to test the consistency of the relationship between hardiness and career adaptability and such findings could help individuals to crystallize their hardiness in order to successfully adapt to the career challenges that they encounter.

6.4 EVALUATION OF THE STUDY

6.4.1 At a theoretical level

At a theoretical level, this research is useful because of the potential relationship found between hardiness and career adaptability. Due to the changing nature of careers in the 21st century from traditional models to boundaryless, the results of this study are useful in career development which has a bearing on the modern world of work. Furthermore, the study results will contribute to the existing body of knowledge relating to the levels of hardiness and career adaptability in the modern work environment.

6.4.2 On an empirical level

At an empirical level, the research may contribute to the knowledge that informs the relationship between hardiness and career adaptability that may be used to inform career development practices. The study highlighted that individuals from different age groups, gender and field of study differ significantly in terms of overall career adaptability. This is ground breaking research as there is no existing study on the relationship between hardiness and career adaptability of TVET college students in the South African context. The results of this study are valuable in the

career development of individuals (especially TVET college students) as they can determine the hardiness attributes that should be developed in order to enhance career adaptability as well as demographic variables (age, gender, race, marital status and field of study) which organisations should consider in terms of the diversity of their workforce or population.

6.4.3 On a practical level

At a practical level, the results might assist the industrial and organisational psychologists; career counsellors and human resource practitioners to develop a better understanding of hardiness attributes that could positively influence career adaptability which in turn enhances career development of specifically TVET college students. The positive results of this study could raise awareness that individuals differ in terms of the levels of hardiness and career adaptability, therefore interventions should be in place to develop the less developed attributes of the two constructs in order to enhance the individuals' career development.

In terms of the practically significant relationships that were found between hardiness and career adaptability as well as demographic variables (age, gender and field of study) the findings may be useful for future research to determine the cause, effects and possible interventions to overcome the low levels of hardiness and career adaptability. In addition, individuals who read this research study may develop a solid understanding of the constructs of hardiness and career adaptability, which may positively or negatively influence their own career development. Furthermore, Human resource professionals may deepen their awareness of the factors influencing hardiness and career adaptability and such information could be utilised to strengthen the resilience of employees when faced with career challenges.

In conclusion, the findings of the research study provide some insight into the relationship between hardiness and career adaptability. The insight may be useful to career counsellors and HR practitioners, who wish to develop the hardiness attributes of their workforce in order to successfully adapt to their careers. Furthermore, recommendations for further research were made.

6.5 CHAPTER SUMMARY

This chapter presented the conclusions of the research study in terms of both the theoretical and empirical objectives. The possible limitations of the study were discussed on both theoretical and practical levels. Recommendations for further research investigating the relationship between hardiness and career adaptability as well as the influence of age, gender, race, marital status, and field of study were suggested. In conclusion, the chapter integrated this study with relevant published research, highlighting the extent to which the results of the study provide support for the relationship between the constructs of hardiness and career adaptability.

Chapter 6 achieved research aim 4, namely to formulate recommendations for further research in the field of Human Resource Management and to suggest further research based on this research's findings has been achieved and the study is concluded.

This concludes the study.

BIBLIOGRAPHY

- Abbott, P., Goosen, X., & Coetzee, J. (2013). The human resource function contribution to human development in South Africa. *SAJournal of Human Resource Management*, 11, 1-14.
- Abdollahi, A., Talib, M.A., Yaacob, S. N., & Ismail, Z. (2015). The role of hardiness in decreasing stress and suicidal ideation in a sample of undergraduate students. *Journal of Humanistic Psychology*, 55(2), 202-222.
- Akoojee, S. (2006). Scarce skills and public technical and vocational education and training in South Africa: twin challenges or two sides of the same coin? *Southern African Review of Education with Education with Production*, 15(2), 117-138.
- Akoojee, S. (2009). Intermediate-level public sector skills provision and FET Colleges: expanding the agenda and widening the impact. *Journal of Public Administration*, 44(1), 30-43.
- Akoojee, S., & McGrath, S. (2007). Public and private Further Education and Training in South Africa: a comparative analysis of the quantitative evidence. *South African Journal of Education*, 27(2), 209-222.
- Amundson, N. (2006). Challenges for career interventions in changing contexts. *International Journal for Educational and Vocational Guidance*, 6, 3-14.
- Amundson, N.E., Mills, L.M. & Smith, B.A. (2014). Incorporating chaos and paradox into career development. *Australian Journal of Career Development*, 23(1), 13-21.
- Babbie, E.R. (2014). *The basics of social research* (6thed.). Belmont, CA: Wadsworth, Cengage Learning.
- Bach, S., & Edwards, M.R. (2013). *Managing Human Resource Management* (5th ed.). Great Britain: CPI Group.
- Badroodien, A., & Kraak, A. (2006). *Building FET College Responsiveness: The Role of Linkages and Programme Units*. Cape Town: Human Sciences Research Council.

- Barnett, B., & Bradley, L. (2007). The impact of organisational support for career development on career satisfaction. *Career Development International*, 12(7), 617-636.
- Baruch, Y. (2004). Transforming Careers: From Linear to Multidirectional Paths. *Career Development International*, 9, 58-73.
- Bartone, P.T., Eid, J., Johnsen, B.H., Laberg, J. C., & Snook, S. A. (2009). Big five personality factors, hardiness, and social judgment as predictors of leader performance. *Leadership & Organisation Development Journal*, 30(6), 498-521.
- Baruch, Y. (2014). The development and validation of a measure for protean career orientation. *The International Journal of Human Resource Management*, 25(19), 2702-2723.
- Beicht, U., & Walden, G. (2013). Duale Berufsausbildung ohne Abschluss - Ursachen und weiterer bildungsbiografischer Verlauf [Dual VET without a degree - reasons and further educational–biographical path]. *BIBB Report*, 21, 1-15.
- Bell, R. (2016). Unpacking the link between entrepreneurialism and employability: An assessment of the relationship between entrepreneurial attitudes and the likelihood of graduate employment in a professional field. *Education and Training*, 58(1), 2-17.
- Bezuidenhout, M. (2011). *The development and evaluation of a measure of graduate employability in the context of the new world of work*. Unpublished master's dissertation, University of Pretoria, Pretoria.
- Bezuidenhout, M., Grobler, A., & Rudolph, E.C. (2013). The utilisation of a career conversation framework based on Schein's career anchors model: original research. *SA Journal of Human Resource Management*, 11(1), 1-10.
- Bimrose, J. & Hearne, L. (2012). Resilience and career adaptability: qualitative studies of adult career counseling. *Journal of Vocational Behaviour*, 81(3), 338-344.
- Bisschoff, T.C. & Nkoe, M.N. (2005). The merging of further education and training colleges: Challenging factors in three provinces of South Africa. *South African Journal of Higher Education*, 19(3), 611-625.
- Blickle, G., & Witzki, A. (2008). New psychological contracts in the world of work: Economic citizens or victims of the market? *Society and Business Review*, 3(2), 149-161.

- Briscoe, J.P., & Finkelstein, L.M. (2009). The “new career” and organisational commitment: do boundaryless and protean attitudes make a difference? *Career Development International*, 14(3), 242-260.
- Briscoe, J.P., & Hall, D.T. (2006). The interplay of boundaryless and protean careers: combinations and implications. *Journal of Vocational Behaviour*, 69(1), 4-18.
- Briscoe, J., Hall, D., & DeMuth, R. (2006). Protean and boundaryless careers: An empirical exploration. *Journal of Vocational Behaviour*, 69, 30-47.
- Briscoe, J.P., Henagan, S.C., Burton, J.P. & Murphy, W.M. (2012). Coping with an insecure employment environment: The differing roles of protean and boundaryless career orientations. *Journal of Vocational Behaviour*, 80(2), 308-316.
- Brown, D. (2012). *Career information, career counseling, and career development* (8th ed.). Needham Heights, MA: Allyn & Bacon.
- Brown, S.D., & Lent, R.W. (2016). Vocational psychology: Agency, equity, and well-being. *Annual Review of Psychology*, 67, 541-565.
- Bryman, A. (2014). *Research methodology: business and management contexts* (4thed.). Cape Town: Oxford University Press Southern Africa.
- Burke, R., & Ng, E. (2006). The changing nature of work and organisations: Implications for human resource management. *Human Resource Management Review*, 16, 86-94.
- Buyukgoze-Kavas, A. (2014). Validation of the career adapt-abilities scale-Turkish form and its relation to hope and optimism. *Australian Journal of Career Development*, 23, 125-132.
- Cabrera, E.F. (2009). Protean organisations: reshaping work and careers to retain female talent. *Career Development International*, 14(2), 186-201.
- Cai, Z., Guan, Y., Li, H., Shi, W., Guo, K., & Liu, Y. (2015). Self-esteem and proactive personality as predictors of future work self and career adaptability: An examination of mediating and moderating processes. *Journal of Vocational Behaviour*, 86, 86-94.

- Chan, W.S. & Dar, O.L. (2014). Boundaryless career attitudes, employability and employee turnover: Perspective from Malaysian hospitality industry. *Research Journal of Applied Science, Engineering and Technology*, 7(12), 2516-2523.
- Chan, K.Y., Uy, M.A., Ho, M.R., Sam, Y.L., Chernyshenko, O.S., & Yu, K.T. (2015). Comparing two career adaptability measures for career construction theory: Relations with boundaryless mindset and protean career attitudes. *Journal of Vocational Behaviour*, 87, 22-31.
- Chan, S.H.J., & Mai, X. (2015). The relation of career adaptability to satisfaction and turnover intentions. *Journal of Vocational Behaviour*, 89, 130-139.
- Chiaburu, D.S., Baker, V.L., & Pitariu, A.H. (2006). Beyond being proactive: What (else) matters for career self-management Behaviours? *Career Development International*, 11(7), 619-632.
- Chopra, K., & Rodriques, A. (2016). Study of impact of quality of education on employability in Pune. *Asian Journal of Multidisciplinary Studies*, 4(1), 2321-8819.
- Carr, J., Kelley, B., Keaton, R., & Albrecht, C. (2011). Getting to grips with stress in the workplace. *Human Resource Management International Digest*, 19(4), 32-38.
- Cho, E., & Kim, S. (2015). Cronbach's Alpha: well-known but poorly understood. *Organisational Research Method*, 18(2), 207-230.
- Clarke, M. (2009). Plodders, pragmatists, visionaries and opportunists: career patterns and employability. *Career Development International*, 14, 8-28.
- Clarke, M. (2013). The organisational career: Not dead but in need of redefinition. *The International Journal of Human Resource Management*, 24, 684-703.
- Coetzee, M. (2006). *Career Planning in the 21st century*. Cape Town: Juta
- Coetzee, M. (2008). Psychological career resources and subjective work experience of working adults: A South African survey. *South African Journal of Industrial Psychology*, 34(2), 32-41.

- Coetzee, M. (2010). Psychological career resources of working adults: A South African Survey. *South African Journal of Industrial Psychology*, 34(2), 10-20.
- Coetzee, M. (2013). A psychological career resources framework for contemporary career development. In Coetzee M. (ed.), *Psychological career meta-competencies: Dynamics of contemporary career development* (in press). Dordrecht: Springer International.
- Coetzee, M. (2014a). Measuring student gradueness: Reliability and construct validity of the Graduate Skills and Attributes Scale. *Higher Education Research and Development*, 33(5), 887-902.
- Coetzee, M. (2014b). Graduate attributes in relation to academic self-directedness in open distance learning: The mediating role of global/moral citizenship and lifelong learning attributes. *Higher Education Research and Development*, 33(6), 1085-1098.
- Coetzee, M., & Esterhuizen, K. (2010). Psychological career resources and coping resources of the young unemployed African graduate: An exploratory study. *South African Journal of Industrial Psychology*, 36(1), 1-9.
- Coetzee, M., & Harry, N. (2015). Gender and hardiness as predictors of career adaptability: an exploratory study among Black call centre agents. *South African Journal of Psychology*, 45(1), 81-92.
- Coetzee, M., Ferreira, N., & Potgieter, I.L. (2015). Assessing employability capacities and career adaptability in a sample of human resource professionals. *SA Journal of Human Resource Management*, 13(1), 1-9.
- Coetzee, M., & Stoltz, E. (2015). Employees' satisfaction with retention factors: Exploring the role of career adaptability. *Journal of Vocational Behaviour*, 89, 83-91.
- Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple Regression/Correlation Analysis for the Behavioural sciences* (3rded.). New Jersey: Lawrence Erlbaum Associates.
- Colakoglu, S.N. (2011). The impact of career boundarylessness on subjective career success: The role of career competencies, career autonomy, and career insecurity. *Journal of Vocational Behaviour*, 79(1), 47-59.

- Constantine, M.G., Wilton, L., & Caldwell, L.D. (2003). The role of social support in moderating the relationship between psychological distress and willingness to seek psychological help among Black and Latino college students. *Journal of College Counseling*, 6, 155-165.
- Cooper, C.L., Flint-Taylor, J., & Pearn, M. (2013). *Building resilience for success: a resource for managers and organisations*. Basingstoke: Palgrave Macmillan.
- Corbin, J. (2015). *Basics of qualitative research: techniques and procedures for developing grounded theory* (4thed.). Los Angeles: Sage Publications Inc.
- Cosser, M. (2011). Pathways through the education and training system: do we need a new model? *Perspectives in Education*, 29(2), 70-79.
- Cosser, M., Kraak, A., & Winnaar, L. (2011). *Further Education and Training (FET) Colleges at a Glance in 2010: FET Colleges Audit*. Cape Town: Human Sciences Research Council.
- Craig, K. (2009). *Reputation: A network interpretation*. New York, NY: Oxford University Press
- Creed, P., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of Vocational Behaviour*, 74, 219-229.
- Creed, P.A., Conlon, E.G., & Dhaliwal, K. (2013). Revisiting the academic hardiness scale: Revision and revalidation. *Journal of Career Assessment*, 21(4), 537-554.
- Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4thed.). Los Angeles: Sage Publications Inc.
- Cresswell, J.W., & Plano-Clark, V.L. (2011). *Designing and conducting mixed methods research*. California: Sage Publications.
- Daniels, J., & Brooker, J. (2014). Student identity development in higher education: Implications for graduate attributes and work-readiness. *Educational Research*, 56(1), 65-76.
- Del Corso, J., & Reh fuss, M. C. (2011). The role of narrative in career construction theory. *Journal of Vocational Behaviour*, 79, 334-339.

- Del Corso, J. (2013). The theory of career adaptability. In A. di Fabio & J.G. Maree (Eds.). *The psychology of career counseling: New challenges for a new era* (pp. 117-130).
- Department of Higher Education and Training. (2006). *Further Education and Training Colleges Act, No. 16 of 2006*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2008). *Human Resource Development Strategy of South Africa, 2010-2030*. Pretoria: Government Printer.
- Department of Higher Education and Training. (2010). *Further Education and Training Colleges Amendment Act, No. 25 of 2010*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2011). *The National Skills Development Strategy*. Pretoria: Pretoria: Government Printers.
- Department of Higher Education and Training. (2013a). *Further Education and Training Colleges Amendment Act, No. 1 of 2013*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2013b). *Annual report 2012/13*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2013c). *White paper for post-school education and training*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2015). *Annual report 2014/15*. Pretoria: Government Printers.
- Department of Labour. (1998). *Skills Development Act*. Pretoria: Government Printers.
- De Guzman, A.B., & Choi, K.O. (2013). The relations of employability skills to career adaptability among technical school students. *Journal of Vocational Behaviour*, 82, 199-207.
- De Villiers, M. (2009). *The relationship between employee wellness and career anchors*. Unpublished master's thesis, University of South Africa, South Africa.
- De Vos, A., Dewettinck, K., & Buyens, D. (2009). The professional career on the right track: A study on the interaction between career self-management and organisational career

- management in explaining employee outcomes. *European Journal of Work and Organisational Psychology*, 18(1), 55-80.
- De Vos, A., & Soens, N. (2008). Protean attitude and career success: The mediating role of self-management. *Journal of Vocational Behaviour*, 73, 449-456.
- De Vos, A., & Van der Heijden, B.I.J.M. (2015). *Handbook of research on sustainable careers*. Cheltenham, UK: Edward Elgar Publishing.
- De Vos, A.S., Strydom, H., Fouche, C., & Delpont, C. (2011). *Research at grass roots for the social and human service professions (4thed.)*. Pretoria: Van Schaik Publishers.
- DiRenzo, M. S., Greenhaus, J. H. & Weer, C. H. (2015). Relationship between protean career orientation and work-life balance: a resource perspective. *Journal of Organisational Behaviour*, 36 (4), 538-560.
- Di Fabio, A., & Kenny, M.E. (2015). The contribution of emotional intelligence and social support for adaptive career progress among Italian youth. *Journal of Career Development*, 42(1), 48-59.
- Donohue, R. (2014). Holland's constructs in relation to career persistence and career change: A study of Australian managerial and professional workers. *Australian Journal of Management*, 39(2), 167-189.
- Douglass, R.P., & Duffy, R.D. (2015). Calling and career adaptability among undergraduate students. *Journal of Vocational Behaviour*, 86, 58-65.
- Duffy, R. (2010). Sense of control and career adaptability among undergraduate students. *Journal of Career Assessment*, 18(4), 420-430.
- Duffy, R.D., Douglass R.P., Autin, K.L. (2015). Career adaptability and academic satisfaction: Examining work volition and self-efficacy as mediators. *Journal of Vocational Behaviour*, 90, 46-54.
- Fadahunsi, T., & Pelser, T.G. (2013). Marketing practices for competitiveness in public FET colleges in Gauteng on the application of marketing practices for competitiveness in public further education and training (FET) Colleges. *South African Journal of Higher Education*, 27(4), 838-857.

- Feldman, D.C. & Ng, T.W.H. (2007). Careers: mobility, embeddedness, and success. *Journal of Management*, 33(3), 350-377.
- Ferreira, N. (2012). Hardiness in relation to organisational commitment in the Human Resource Management field: original research. *SA Journal of Human Resource Management*, 12(2), 1-10.
- Ferreira, N., Coetzee, M., & Masenge, A. (2013). Psychological career resources, career adaptability and hardiness in relation to job embeddedness and organisational commitment. *Journal of Psychology in Africa*, 23(1), 31-40.
- Field, A. (2013). *Discovering statistics using SPSS* (4th ed). London: Sage.
- Flick, U. (2014). *An introduction to qualitative research* (5th ed.). Los Angeles: Sage Publications Inc.
- Flint-Taylor, J., Davda, A., & Cooper, C.L. (2014). Stable personal attributes and a resilient approach to work and career. *SA Journal of Industrial Psychology*, 40(1), 1-10.
- Flum, H., & Blustein, D.L. (2000). Reinvigorating the study of vocational exploration: A framework for research. *Journal of Vocational Behaviour*, 56, 380-404.
- Fo, Z., Xing, H. (2011). Survey on the implementation of the national stipend policy in secondary vocational schools. In: Yang, D. (Ed), *The China Educational Development Yearbook*. Brill, Leiden. The Netherlands vol 3.
- Forrier, A., Sels, L. and Stynen, D. (2009). Career mobility at the intersection between agent and structure: A conceptual model. *Journal of Occupational and Organisational Psychology*, 82(4), 739-759.
- Fouad, N. A., & Bynner, J. (2008). Work transitions. *American Psychologist*, 63, 241–251.
- Freeks, F. E. (2015). The influence of role-players on the character-development and character-building of South African college students. *South African Journal of Education*, 35(3), 1-13.
- Fugate, M, Kinicki, A & Ashforth, B. (2004). Employability: a psycho-social construct, its dimensions and applications. *Journal of Vocational Behaviour*, 65, 14-38.

- Fugate, M. (2006). Employability. In J. Greenhaus & G. Callanan (Eds.), *Encyclopedia of Career Development*, 1, 267-271.
- Garraway, J., Bronkhorst, J., & Wickham, S. (2015). Between college and work in the Further Education and Training college sector. *South African Journal of Education*, 35(1), 1-8.
- Goos, M., Manning, A., & Salomons, A. (2009). Job polarisation in Europe. *The American Economic Review*, 99(2), 58-63.
- Gorard, S. (2013). *Research Design: Creating Robust Approaches for the Social Sciences*. London; Thousand Oaks, California: SAGE.
- Gore, P.A.J., & Metz, A.J. (2008). Advising for career and life planning. In V. N. Gordon, W. R. Habley, & R.J. Grites (Eds.), *Academic advising: A comprehensive handbook* (2nd ed. pp. 103-117). San Francisco, CA: Jossey-Bass.
- Greenhaus, J. H, Callanan, G. A, & Godshalk, V. M. (2010). *Career Management*. New York: Harcourt College Publishers.
- Grigsby, M. (2015). *Marketing analytics: A practical guide to real marketing science*. London, Philadelphia: Kogan Page.
- Grobler, A., Wörnich, S., Carrell, M.R., Elbert, N.F., & Hatfield, R.D. (2011). *Human Resource Management in South Africa* (4thed.). London: Cengage.
- Gubler, M., Arnold, J., & Coombs, C. (2014). Reassessing the protean career concept: Empirical findings, conceptual components, and measurement. *Journal of Organisational Behaviour*, 35(1), 23-40.
- Guan, P., Capezio, A., Restubog, S.L.D., Read, S., Lajom, J.A.L., & Li, M. (2016). The role of traditionality in relationships among parental support, career decision-making self-efficacy and career adaptability. *Journal for Vocational Behaviour*, 94, 114-123.
- Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., & Ye, L. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behaviour*, 83, 261–270.

- Guan, Y., Guo, Y., Bond, M.H., Cai, Z., Zhou, X., & Xu, J. (2014). New job market entrants' future work self, career adaptability and job search outcomes: Examining mediating and moderating models. *Journal of Vocational Behaviour*, 85, 136-145.
- Guan, Y., Yang, W., Zhou, X., Tian, Z., & Eves, A. (2016). Predicting Chinese human resource managers' strategic competence: Roles of identity, career variety, organisational support and career adaptability. *Journal of Vocational Behaviour*, 92, 116-124.
- Guan, Y., Zhou, W., Ye, L., Jiang, P., & Zhou, Y. (2015). Perceived organisational career management and career adaptability as predictors of success and turnover intention among Chinese employees. *Journal of Vocational Behaviour*, 88, 230-237.
- Guo, Y., Guan, Y., Yang, X., Xu, J., Zhou, X., & She, Z. (2014). Career adaptability, calling and the professional competence of social work students in China: A career construction perspective. *Journal of Vocational Behaviour*, 85, 394-402.
- Habib, M., Maryam, H., & Pathik, B.B. (2014). *Research Methodology - Contemporary Practices: Guidelines for Academic Researchers*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Hall, D. T. (1996). Protean careers of the 21st century. *The Academy of Management Executive*, 10(4), 8-16.
- Hall, D. (2002). *Careers in and out of organisations*. Thousand Oaks, CA: Sage.
- Hall, D. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behaviour*, 65(1), 1-13.
- Hall, D.T. (2013). Protean careers in the 21st century. In K. Inkson, & M.L. Savickas (Eds.), *Career studies, Vol I: Foundations of career studies* (pp. 245-254). London, UK: Sage.
- Hall, D.T., & Mirvis, P.H. (1995). The new career contract: Developing the whole person at midlife and beyond. *Journal of Vocational Behaviour*, 47(3), 269-289.
- Harry, N. (2014). *Constructing a psychological coping profile for call centre agents* (Unpublished doctoral thesis). University of South Africa, Pretoria, South Africa.

- Harry, N. (2015). Constructing a psychological coping profile in the call centre environment: Wellness-related dispositions in relation to resiliency-related behavioural capacities: original research. *SA Journal of Industrial Psychology*, 41(1), 1-11.
- Hartung, P.J. (2007). Career construction: Principles and practice. In K. Maree. (Ed.), *Shaping the story: A guide to facilitating narrative counselling* (pp. 103-120). Hatfield: Van Schaik.
- Hartung, P.J. (2013). Career construction counseling. In A. di Fabio & J.G. Maree (Eds.), *The psychology of career counseling: New challenges for a new era* (pp. 15-28). New York, NY: Nova Science Publishers, Inc
- Havenga, M. (2011). *The relationship between career adaptability and academic achievement in the course of life design counselling*. (Unpublished master's thesis). University of Pretoria, Pretoria, South Africa.
- Herrmann, A., Hirschi, A., & Baruch, Y. (2015). The protean career orientation as predictor of career outcomes: Evaluation of incremental validity and mediation effects. *Journal of Vocational Behaviour*, 88, 205-214.
- Hiester, M., Nordstrom, A., & Swendon, L.M. (2009). Stability and change in parental attachment and adjustment outcomes during the first semester transition to college life. *Journal of College Student Development*, 50, 521-538.
- Hirschi, A. (2009). Career adaptability development in adolescence: Multiple predictors and effect on sense of power and life satisfaction. *Journal of Vocational Behaviour*, 74, 145-155.
- Hirschi, A. (2012). The career resources model: An integrative framework for career counsellors. *British Journal of Guidance & Counselling*, 140(4), 369-383.
- Huang, J. (2015). Hardiness, perceived employability, and career decision self-efficacy among Taiwanese college students. *Journal of Career Development*, 42(4), 311-324.
- Ismail, S., Ferreira, N., & Coetzee, M. (2016). Young emerging adults' graduateness and career adaptability: Exploring the moderating role of self-esteem. *Journal of Psychology*, 26(1), 1-10.

- Judge, T.A., Simon, L.S., Hurst, C., & Kelley, K. (2014). What I experienced yesterday is who I am today: Relationship of work motivations and Behaviours to within individual variation in the five-factor model of personality. *Journal of Applied Psychology*, 99, 199–221.
- Kaspi-Baruch, O. (2015). Motivational orientation as a mediator in the relationship between personality and protean and boundaryless careers. *European Management Journal*, 1, 1-11.
- Kauten, R., Barry, C.T., & Leachman, L. (2013). Do perceived social stress and resilience influence the effects of psychopathy-linked narcissism and CU traits on adolescent aggression? *Aggressive Behaviour*, 39, 381-390.
- Kenett, R. (2014). *Modern industrial statistics: with applications in R MINITAB and JMP (2nd ed.)*. Chichester, West Sussex, United Kingdom: John Wiley & Sons, Ltd.
- King, K & McGrath, S. (1999). *Enterprise in Africa: Between Poverty and Growth*. London: Intermediate Technology Publications Ltd.
- Klag, S., & Bradley, G. (2004). The role of hardiness in stress and illness: An exploration of the effect of negative affectivity and gender. *British Journal of Health Psychology*, 9, 137-161.
- Kobasa, S. (1979a). Personality and resistance to illness. *American Journal of Community Psychology*, 7(4), 413-423.
- Kobasa, S. (1979b). Stressful life events, personality and health: An enquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1-11.
- Kobasa, S. (1982). The hardy personality: Toward a social psychology of stress and health. In G. S. Sanders & J. Suls (Eds.), *Social psychology of health and illness*. Hillsdale, NJ: Lawrence Erlbaum.
- Kobasa, S. (1985). Barriers to work stress II: The hardy personality. In W.D. Gentry, H. Benson & C.J. de Wolff (Eds.), *Behavioural medicine: Work stress and health* (pp. 181-204). Dordrecht/Boston/Lancaster: Martinus Nijhoff.
- Kobasa, S.C., Maddi, S.R., & Courington, S. (1981). Personality and constitution as mediators in the stress-illness relationship. *Journal of Health and Social Behaviour*, 22, 368-378.

- Kobasa, S.C., Maddi, S.R., & Kahn, S. (1982). Hardiness and health: A perspective study. *Journal of Personality and Social Psychology*, 42(1), 168-177.
- Kobasa, S., & Puccetti, M. (1983). Personality and social resources in stress resistance. *Journal of Personality and Social Psychology*, 45(4), 839-850.
- Koekemoer, E. (2015). Outlining and discussing various psychological perspectives on career meta-capacities. *SA Journal of Industrial Psychology*, 41(1), 1-3.
- Koekemoer, E. (2014). An explorative study on factors influencing the career success of management employees. *SA Journal of Industrial Psychology*, 40(2), 1-10
- Koen, J., Klehe, U., Van Vianen, A., Zikic, J., & Nauta, A. (2010). Job-search strategies and reemployment quality: The impact of career adaptability. *Journal of Vocational Behaviour*, 77, 126-139.
- Kraak, A. (2002). Convergence of public and private provision at the further-higher education interface: The private higher education landscape: Developing conceptual and empirical analysis. *Perspectives in Education*, 20, 53-65.
- Kumar, R. (2014). *Research methodology: a step-by-step guide for beginners*. Los Angeles: Sage Publications Inc.
- Latif, J. (2010). *An investigation into the moderating effects of hardiness between performance monitoring and life satisfaction in a call centre environment*. Unpublished master's thesis, University of Witwatersrand, Johannesburg, South Africa.
- Lin, Y. (2015). Are you a protean talent? The influence of protean career attitude, learning-goal orientation and perceived internal and external employability. *Career Development International*, 20(7), 753-772
- Litano, M.L., & Major, D.A. (2016). Facilitating a Whole-Life Approach to Career Development: The Role of Organisational Leadership. *Journal of Career Development*, 43(1), 52-65.
- Lent, R.W. (2013). Career-life preparedness: revisiting career planning and adjustment in the New Workplace. *The Career Development Quarterly*, 6(1), 2-14.

- Lent, R.W., & Brown, S.D. (2013). Understanding and facilitating career development in the 21st century. In S.D. Brown & R.W. Lent (Eds.), *Career development and counselling: Putting theory and research to work* (2nd ed.). Hoboken, NJ: Wiley.
- Liu, S., Luksyte, A., Zhou, L., Shi, J., & Wang, M. (2014). Overqualification and counterproductive work behaviours: Examining a moderated mediation model. *Journal of Organisational Behaviour*, 36, 250-271.
- Lyons, S.T., Schweitzer, L., & Ng, E.S.W. (2015). Resilience in the modern career. *Career Development International*, 20(4), 363-383.
- Lyons, S.T., Schweitzer, L., Ng, E.S.W. & Kuron, L.K.J. (2012). Comparing apples to apples: a qualitative investigation of career mobility patterns across four generations. *Career Development International*, 17(4), 333-359.
- Ma, W., Tan, S., Hei, X., Zhao, J., & Xie, G. (2016). A Prediction Method Based on Stepwise Regression Analysis for Train Axle Temperature. *International Computational Intelligence and Security (CIS), 2016 12th International Conference on* (pp. 386-390).
- Maddi, S. (1994). Hardiness: An operationalisation of existential courage. *Journal of Humanistic Psychology*, 44(3), 279-298.
- Maddi, S. (1998). Creating meaning through making decisions. In P. T .P. Wong & P. S. Fry (Eds.), *The human quest for meaning*. Mahwah, NJ: Erlbaum.
- Maddi, S. (1999). The personality construct of hardiness I: Effect on experiencing, coping, and strain. *Consulting Psychology Journal*, 51(2), 83-94.
- Maddi, S. (2002). The story of hardiness: Twenty years of theorizing, research, and practice. *Consulting Psychology Journal: Practice and Research*, 54(3), 175-185.
- Maddi, S. (2004). Hardiness: An operationalisation of existential courage. *Journal of Humanistic Psychology*, 44(3), 279-298.
- Maddi, S.R., & Khoshaba, D.M. (2001). *Hardi Survey III-R: Test development and instruction manual*. Newport Beach, CA: Hardiness Institute.

- Maddi, S. (2006). Hardiness: The courage to grow from stresses. *Journal of Positive Psychology, 1*, 160-168.
- Maddi, S., & Khoshaba, D. (2001). *Personal views survey* (3rded.). Newport Beach, CA: The Hardiness Institute.
- Maddi, S.R., & Khoshaba, D.M. (2005). *Resilience at work: How to succeed no matter what life throws at you*. New York, NY: Amacom.
- Maddi, S.R., & Kobasa, S.C. (1984). *The hardy executive: Health under stress*. Homewood, IL: Dow Jones-Irwin.
- Maddi, S.R., Harvey, R.H., Khoshaba, D.M., Lu, J.H., Persico, M., & Brow, M. (2006). The personality construct of hardiness, III: Relationships with repression, innovativeness, authoritarianism, and performance. *Journal of Personality, 74*, 575-598.
- Maddi, S.R., Harvey, R., Khoshaba, D., Fazel, M., & Resurrección, N. (2009). The personality construct of hardiness, IV: Expressed in positive cognitions and emotions concerning oneself and developmentally relevant activities. *Journal of Humanistic Psychology, 49*(3), 292-305.
- Maddi, S.R., Harvey, R.H., Khoshaba, D.M., Faazel, M., & Resurreccion, N. (2012). The relationship of hardiness and some other relevant variables to college performance. *Journal of Humanistic Psychology, 52*(2), 190-205.
- Maddi, S.R., Harvey, R.H., Khoshaba, D.M., Lu, J.L., Persico, M., & Brow, M. (2006). The personality construct of hardiness III: Relationships with repression, innovativeness, authoritarianism, and performance. *Journal of Personality, 74*(2), 575-598.
- Maddi, S., Khoshaba, D., Persico, M., Lu, J., Harvey, R., & Bleecker, F. (2002). The personality construct of hardiness II: Relationships with comprehensive tests of personality and psychopathology. *Journal of Research in Personality, 36*, 72-85.
- Maggiori, C., Johnston, C.S., Krings, F., Massoudi, K., & Rossier, J. (2013). The role of career adaptability and work conditions on general and professional well-being. *Journal of Vocational Behaviour, 83*(3), 437-449.

- Maree, J.B. (2012). Career adapt-abilities scale - South African form: Psychometric properties and construct validity. *Journal of Vocational Behaviour*, 80, 730-733.
- Mateng'e, F.J. (2014). Human resource development in Tanzania: reflections on its role and challenges in the gas and oil sector. *Journal of Public Administration*, 49(2), 692-703.
- Mathur, G. (2016). The art of retention, leveraging social media for generation Y retention. *International Journal of Application*, 5(1), 99-108.
- Maurer, T.J., & Chapman, E.F. (2013). Ten years of career success in relation to individual and situational variables from the employee development literature. *Journal of Vocational Behaviour*, 83, 450-465.
- McArdle, S., Waters, L., Briscoe, J.P. & Hall, D.T. (2007). Employability during unemployment: adaptability, career identity and human and social capital. *Journal of Vocational Behaviour*, 71(2), 247-264.
- McBurney, D.H., & White, T.L. (2007). *Research methods* (7th ed.). USA: Thomson Wadsworth
- McDonald, K.S., & Hite, L.M. (2008). The next generation of career success: Implications for HRD. *Advances in Developing Human Resources*, 10, 86-103.
- McElroy, J.C., & Weng, Q. (2016). The Connections Between Careers and Organisations in the New Career Era: Questions Answered, Questions Raised. *Journal of Career Development*, 43(1), 3-10.
- McGrath, S. (2011). Where to now for vocational education and training in Africa? *International Journal of Training Research*, 9, 35-48.
- McGrath, S. (2012a). Vocational education and training for development: A policy in need of a theory? *International Journal of Educational Development*, 32(5), 623-631.
- McGrath, S. (2012b). Building new approaches to thinking about vocational education and training and development: Policy, theory and evidence. *International Journal of Educational Development*, 32(5), 619-622.
- McVicar, A. (2003). Workplace stress in nursing: A literature review. *Journal of Advanced Nursing*, 44, 633-642.

- Merino-Tejedor, E., Hontangas-Beltrán, P.M., Boada-Grau, J., & Lucas-Mangas, S. (2016). Hardiness as a moderator variable between the Big-Five Model and work effort. *Journal of Personality and Individual Differences, 85*, 105-110
- Meyer, H.W., & Kirsten, G.J.C. (2015). Psychological violence at a multi-campus further education and training college: articles. *South African Journal of Higher Education, 29*(2), 181-201.
- Migunde, Q., Agak, J., & Odiwuor, W. (2011). Career aspirations and career development barriers of adolescents in Kisumu municipality, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies, 2*(5), 320-324.
- Moodley, C.G. (2014). Emerging adult Further Education and Training (FET) college students' views on social and cultural factors affecting their sexual decision-making: health and quality of life. *African Journal for Physical Health Education, Recreation and Dance, 20*, 136-154.
- Moodley, C.G., & Phillips, J.S. (2011). HIV/AIDS-related knowledge and behaviour of FET college students: implications for sexual health promotion: lifestyle and risk behaviour. *African Journal for Physical Health Education, Recreation and Dance, 17*, 49-60.
- Mouton, J. (2001). *How to succeed in your master's and doctoral studies: A South African guide and resource book*. Pretoria: Van Schaik.
- Muswaba, M.M., & Worku, Z. (2012). An investigation into the factors affecting corporate sustainability of public Further Education and Training Colleges in Gauteng Province of South Africa. *African Journal of Science, Technology, Innovation and Development, 4*(1), 91-112.
- Muswaba, M.M., & Worku, Z. (2012). Strategic management of public Further Education and Training (FET) colleges in South Africa. *African Journal of Science, Technology, Innovation and Development, 4*(3), 147-170.
- Naute, A., Van Vianen, A., Van Der Heijden, B., Van Dam, K., & Willemssen, M. (2009). Understanding the factors that promote employability orientation: The impact of employability culture, career satisfaction, and the role breadth self-efficacy. *Journal of Occupational and Organisational Psychology, 82*, 223-251.

- Negru-Sutirica, O., Pop, E.L. (2016). Longitudinal links between career adaptability and academic achievement in adolescence. *Journal for Vocational Behaviour*, 93, 163-170.
- Ng, T., Sorensen, K., & Eby, L. (2006). Locus of control at work: A meta-analysis. *Journal of Organisational Behaviour*, 27(8), 1057-1087.
- Nel, H., & Neale-Shutte, M. (2013). Examining the evidence: Graduate employability at NMMU. *South African Journal of Higher Education*, 27(2), 437-453.
- Nezhad, M.A.S., & Besharat, M.A. (2010). Relations of resilience and hardiness with sport achievement and mental health in a sample of athletes. *Procedia-Social and Behavioural Sciences*, 5, 757-763.
- Niessen, C., Swarowsky, C., & Liez, M. (2010). Age and adaptation to changes in the workplace. *Journal of Managerial Psychology*, 25(4), 356-383.
- Niles, S., & Harris-Bowsley, J. (2009). *Career development interventions in the 21st century*. Upper Saddle River, NJ: Pearson.
- Nilforooshan, P., & Salimi, S. (2016). Career adaptability as a mediator between personality and career management. *Journal for Vocational Behaviour*, 94, 1-10
- Nota, L., Ginevra, M.C., Santili, S., & Soresi, S. (2014). Contemporary career construction: The role of career adaptability. In M. Coetzee (Ed.), *Psycho-social career meta-capacities: Dynamics of contemporary career development* (pp. 247–264). Switzerland: Springer.
- O'Connel, D., McNeely, E., & Hall, D. (2008). Unpacking personal adaptability at work. *Journal of Leadership and Organisational Studies*, 14, 248-259.
- Ohme, M., & Zacher, H. (2015). Job performance ratings: The relative importance of mental ability, conscientiousness, and career adaptability. *Journal of Vocational Behaviour*, 87, 161–170.
- Okurame, D.E. (2008). Mentoring in the Nigerian academia: experiences and challenges. *International Journal of EvidenceBased Mentoring and Coaching*, 6(2), 45-56.
- Okurame, D. E., & Fabunmi, R. (2014). Protean and boundaryless careers. *Career Development International*, 19(1), 73-100.

- Öncel, L. (2014). Career adapt-abilities scale: Convergent validity of subscale scores. *Journal of Vocational Behaviour*, 85(1), 13-17.
- Oosthuizen, R.M., Coetzee, M., & Mntonintshi, F. (2014). Investigating the relationship between employees' career anchors and their psychosocial employability attributes in a financial company: original research. *SA Journal of Human Resource Management*, 12(1), 1-10.
- O'Shea, D., Monaghan, S., & Ritchie, T.D. (2014). Career attitudes and satisfaction during recession. *Journal of Managerial Psychology*, 29, 226-245.
- Pallant, J. (2013). *SPSS survival manual* (5th ed). Buckingham: Open University Press.
- Patton, W., Bartrum, D.A., & Creed, P.A. (2004). Gender differences for optimism, self-esteem, expectations and goals in predicting career planning and exploration in adolescents. *International Journal for Educational and Vocational Guidance*, 4(3), 193-209.
- Patton, W., & McMahon, M. (2014). *Career development and systems theory: connecting theory and practice* (3rded.). Rotterdam; Boston: Sense Publishers.
- Paul Vogt, W., Gardner, D.C., & Haeffele, L.M. (2012). *When to Use What Research Design*. New York: The Guilford Press.
- Peeters, M., & Emmerick, H. (2008). An introduction to the work and well-being of older workers: From managing threats to creating opportunities. *Journal of Managerial Psychology*, 23, 353-363.
- Perera, H.N., & McIlveen, P. (2014). The role of optimism and engagement coping in college adaptation: A career construction model. *Journal of Vocational Behaviour*, 84, 395-404.
- Pitz, G., & Harren, V. (1980). An analysis of career decision-making from the point of view of information-processing and decision theory. *Journal of Vocational Behaviour*, 16, 320-346.
- Porter, C., Woo, S. E., & Tak, J. (2015). Developing and validating short form protean and boundaryless career attitudes scales. *Journal of Career Assessment*, 24(1) 162-181.

- Potgieter, I., & Coetzee, E. (2013). Employability attributes and personality preferences of postgraduate business management students: original research. *SA Journal of Industrial Psychology*, 39(1), 1-10.
- Pouyaud, J., Vignoli, E., Dosnon, O., & Lallemand, N. (2012). Career adapt-abilities scale-France form: Psychometric properties and relationships to anxiety and motivation. *Journal of Vocational Behaviour*, 80, 692-697.
- Powell, L. (2012). Reimagining the purpose of VET – Expanding the capability to aspire in South African further education and training students. *International Journal of Educational Development*, 32(5): 643-653.
- Powell, L. (2013). A critical assessment of research on South African further education and training colleges. *Southern African Review of Education with Education with Production*, 19(1), 59-81.
- Praskova, A., Hood, M., & Creed, P.A. (2014). Testing a calling model of psychological career success in Australian young adults: A longitudinal study. *Journal of Vocational Behaviour*, 85, 125-135.
- Presbitero, A. (2015). Proactivity in career development of employees: The roles of proactive personality and cognitive complexity. *Career Development International*, 20(5), 525-538.
- Pringle, J.K., & Mallon, M. (2003). Challenges for the boundaryless career odyssey. *International Journal of Human Resource Management*, 14(5), 839-853.
- Puah, P. & Ananthram, S. (2006). Exploring the antecedents and outcomes of career development initiatives: Empirical evidence from Singaporean employees. *Research and Practice in Human Resource Management*, 14(1), 112-142.
- Raabe, B., Frese, M., & Beehr, T. (2007). Action related theory and career self-management. *Journal of Vocational Behaviour*, 70, 297-311.
- Ramanaiah, N., & Sharpe, J. (1999). Hardiness and major personality factors. *Psychological Reports*, 84, 497-500.
- Reich, J.W., Zautra, A.J., & Hall, J.S. (Eds.) (2010). *Handbook of adult resilience*. New York, NY: The Guildford Press.

- Rice, A. (2014). Incorporation of chance into career development theory and research. *Journal of Career Development, 41*(5), 445-463.
- Rice, K.G., Leever, B.A., Christopher, J., & Porter, J.D. (2006). Perfectionism, stress, and social (dis)connection: A short-term study of hopelessness, depression, and academic adjustment among honors students. *Journal of Counseling Psychology, 53*, 524-534.
- Rice, A. (2014). Incorporation of chance into career development theory and research. *Journal of Career Development, 41*(5), 445-463.
- Rice, K.G., Leever, B.A., Christopher, J., & Porter, J.D. (2006). Perfectionism, stress, and social (dis)connection: A short-term study of hopelessness, depression, and academic adjustment among honors students. *Journal of Counseling Psychology, 53*, 524-534.
- Roberts, B. (2009). Back to the future: Personality and assessment and personality development. *Journal of Research in Personality, 43*, 137-145.
- Robson, C. (2014). *How to do a research project: a guide to undergraduate students (2nd ed.)*. Chichester, West Sussex, United Kingdom: John Wiley & Sons, Ltd.
- Rodrigues, R.A., & Guest, D. (2010). Have careers become boundaryless? *Human Relations, 63*, 1157-1175.
- Rodrigues, R., Guest, D., Oliveira, T., & Alfes, K. (2015). Who benefits from independent careers? Employees, organisations, or both? *Journal of Vocational Behavior, 91*, 23-34.
- Rose, S., Spinks, N., & Canhoto, A. I. (2015). *Management research: Applying the principles*. Routledge: Taylor & Francis Group.
- Rostami, Z., Abedi, M.R., Bagnhan, I., & Savickas, M.L. (2012). Toward career salvation's model, a primary study: Case study. *Interdisciplinary Journal of Contemporary Research, 4*(2), 1133-1139.
- Rothwell, A. & Arnold, J. (2007). Self-perceived employability: development and validation of a scale. *Personnel Review, 36*(1), 23-41.
- Rottinghaus, P., Day, S., & Borgen, F. (2005). Career Futures Inventory: A measure of career-related adaptability and optimism. *Journal of Career Assessment, 13*, 3-24.

- Sachdeva, J. K. (2009). *Business research methodology*. Mumbai: Global Media.
- Salkind, N.J. (2012). *Exploring research* (8th ed). New York, USA: Pearson
- Salovey, P., Bedell, B.T., Detweiler, J.B., & Mayer, J.D. (2000). Current directions in emotional intelligence research. In M. Lewis & J.M. Haviland (Eds.), *Handbook of emotions* (2nd ed., pp. 504-520). New York, NY: Guilford.
- Savickas, M. (1994). Measuring career development: Current status and future directions. *The Career Development Quarterly*, 43, 54-62.
- Savickas, M. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly*, 45(3), 247-259.
- Savickas, M. (2001). A developmental perspective on vocational behaviour: Career patterns, salience and themes. *International Journal for Educational and Vocational Guidance*, 1, 49-57.
- Savickas, M. (2002). Career construction: A development theory of vocational behaviour. In D. Brown, & Associates (Eds). *Career choice and development* (4th Edition). San Francisco: Jossey-Bass.
- Savickas, M. (2005). The theory and practice of career construction. In S.D Brown, & R.W Lent (Eds.), *Career development and counselling*. Hoboken, NJ: Wiley.
- Savickas, M.L. (2011). New questions for vocational psychology: premises, paradigms, and practices. *Journal of Career Assessment*, 19(3), 251–258.
- Savickas, M.L. (2012). Life design: A paradigm for career intervention in the 21st century. *Journal of Counseling & Development*, 90, 13–19.
- Savickas, M.L. (2013). Career construction theory and practice. In R.W. Lent & S.D. Brown (Eds.), *Career development and counselling: Putting theory and research to work* (2nd ed., pp. 147–183). Hoboken, NJ: John Wiley & Sons.
- Savickas, M.L., Nota, L., Rossier, J., Dauwalder, J.P., Duarte, M.E., & Guichard, J. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behaviour*, 75, 239-250.

- Savickas, M.L., & Porfeli, E.J. (2012). Career adapt-abilities scale: construction, reliability and measurement equivalence across 13 countries. *Journal of Vocational Behaviour*, 80(3), 661-673.
- Savickas, M., Nota, L., Rossier, J., Dauwalder, J., Duarte, M., & Guichard, J. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behaviour*, 75, 239-250.
- Schreuder, A., & Coetzee, M. (2011). *Careers: An organisational perspective*. (4thed.). Cape Town: Juta.
- Schutt, R.K. (2012). *Investigating the social world: the process and practice of research* (7thed.). California: Sage Publications.
- Scotland, J. (2012). Exploring the philosophical underpinnings of research: relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *Canadian Center of Science and Education*, 5(9), 1- 9.
- Seibert, S., & Kraimer, M. (2001). The five-factor model of personality and career success. *Journal of Vocational Behaviour*, 58, 1-21.
- Seibert, S., Crant, M., & Kraimer, M. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84, 416-427.
- Sezgin, F. (2009). Relationship between teacher organisational commitment, psychological hardiness and some demographic variables in Turkish primary schools. *Journal of Educational Administration*, 47(5), 630-651.
- Shaffer, M.A., Kraimer, M.L., Chen, Y.P. & Bolino, M.C. (2012). Choices, challenges, and career consequences of global work experiences: a review and future agenda. *Journal of Management*, 38(4), 1282-1327.
- Sheard, M. (2009). Hardiness commitment, gender, and age differentiate university academic performance. *British Journal of Educational Psychology*, 79, 189-204.
- Sheard, M., & Golby, J. (2007). Hardiness and undergraduate academic study: The moderating role of commitment. *Personality and Individual Differences*, 43, 579-588.

- Sheppard, J.A., & Kashani, J.H. (1991). The relationship of hardiness, gender and stress to health outcomes in adolescents. *Journal of Personality*, 59, 747-767.
- Skosana, B.V. (2014). Entrepreneurial intentions of students at Further Education and Training colleges in South Africa. *South African Journal of Higher Education*, 28(4), 1398-1413.
- South African government News Agency, (2013). *Progress is made to fix FET Colleges - Nzimande*. Retrieved 09/06/214 from: sanews.gov.za
- Spurk, D., Kauffeld, S., Meinecke, A.L., & Ebner, K. (2016). Why do adaptable people feel less Insecure? Indirect effects of career adaptability on job and career insecurity via two types of perceived marketability. *Journal of Career Assessment*, 24(2), 289-306.
- Statistics South Africa. (2016). *Quarterly Labour Force Survey (Quarter 1)*. Statistical Release: P02011.
- Steyn, H. (2001). Practical significant relationships between two variables. *South African Journal of Industrial Psychology*, 28(3), 10-15.
- Struwig, G.A., Papaikonomou, M., & Kruger, P. (2006). Effects of life event stress, exercise workload, hardiness and coping style on susceptibility to the common cold: health promotion, fitness and wellness. *African Journal for Physical Health Education, Recreation and Dance*, 12(4), 369-383.
- Sullivan, S. E. (1999). The changing nature of careers: A review and research agenda. *Journal of Management*, 25, 457-484.
- Sullivan, S.E. (2013). The changing nature of careers: A review and research agenda. In K. Inkson & M.L. Savickas (Eds.), *Career studies, Vol I: Foundations of career studies* (pp. 271-302). London, UK: Sage.
- Sullivan, S.E., & Arthur, M.B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behaviour*, 69, 19-29.
- Sullivan, S.E., & Baruch, Y. (2009). Advances in career theory and research: a critical review and agenda for future exploration. *Journal of Management*, 35(6), 1542-1571.

- Supeli, A., & Creed, P. (2016). The longitudinal relationship between protean career orientation and job satisfaction, organisational commitment, and intention to quit. *Journal of Career Development, 43*(1), 66-80.
- Super, D. (1955). Dimensions and measurement of vocational maturity. *Teacher College Record, 57*, 151-163.
- Super, D., & Knasel, E. (1981). Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance and Counselling, 9*, 194-201.
- Sweet, S. & Meiksins, P. (2012). *Changing Contours of Work: Jobs and Opportunities in the New Economy*. Sage, Thousand Oaks, CA.
- Swenson, L.M., Nordstrom, A., & Hiester, M. (2008). The role of peer relationships in adjustment to college. *Journal of College Student Development, 49*, 551-567.
- Tladinyane, R., Coetzee, M., & Masenge, A. (2013). Psychological career meta-capacities in relation to employees' retention-related dispositions. *Southern African Business Review, 17*(2), 140-163.
- Tolentino, L.R., Garcia, P.R.J.M., Lu, V.N., Restubog, S.L.D., Bordia, P., & Plewa, C. (2014). Career adaptation: The relation of adaptability to goal orientation, proactive personality, and career optimism. *Journal of Vocational Behaviour, 84*, 39–48.
- Tran, T.T. (2013). Limitation on the development of skills in higher education in Vietnam. *Higher Education, 65*, 631–644.
- Tredoux, C., & Durrheim, K. (2013). *Numbers, hypotheses and conclusions: A course in statistics for the social sciences*. (2nd ed.). Lansdowne: UCT Press.
- Usinger, J., & Smith, M. (2010). Career development in the context of self-construction during adolescence. *Journal of Vocational Behaviour, 76*, 580-591.
- Uy, M.A., Chan, K., Sam, Y.L., Ho M.R., & Chernyshenko, O.S. (2015). Proactivity, adaptability and boundaryless career attitudes: The mediating role of entrepreneurial alertness. *Journal of Vocational Behaviour, 86*, 115-123.

- Van der Heijde, C.M. (2014). Employability and self-regulation in contemporary careers. In M. Coetzee (Ed.), *Psycho-social career meta-capacities: Dynamics of contemporary career development* (pp. 7–18). Dordrecht, The Netherlands: Springer.
- Van der Heijde, C.M., & Van der Heijden, B.I.J.M. (2006). A competence-based and multi-dimensional operationalisation and measurement of employability. *Human Resource Management, 45*(3), 449-476.
- Van der Heijden, B. (2002). Pre-requisites to guarantee life-long employability. *Personnel Review, 31*(1), 44-61.
- VandeWalle, D., Brown, S.P., Cron, W.L. & Slocum, J.W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: a longitudinal field of test. *Journal of Applied Psychology, 84*(2), 249-259.
- Vanhercke, D., De Cuyper, N., Peeters, E., & De Witte, H. (2014). Defining perceived employability: a psychological approach. *Personnel Review, 43*(4), 592-605.
- Van Rooyen, M. (2011). Minister launches National Skills Strategy: skills - NQF navigation. *HR Future, Feb*, 38-39.
- Van Rooyen, M. (2012). Why students won't go to FET Colleges: Skills NQF navigation. *HR Future, Mar*, 36-37.
- Vansteenkiste, S., Verbruggen, M., & Sels, L. (2013). Being unemployed in the boundaryless career era: Does psychological mobility pay off? *Journal of Vocational Behaviour, 82*, 135-143.
- Van Vianen, A., Pater, I., & Preenen, P. (2009). Adaptable careers: Maximising less and exploring more. *The Career Development Quarterly, 57*, 298-309.
- Verhaeghen, P., & Salthouse, T. (1997). Meta-analysis of age-cognition relations in adulthood: Estimates of linear and nonlinear age effects and structural models. *Psychological Bulletin, 122*, 231-249.
- Verbruggen, M. (2012). Psychological mobility and career success in the 'New' career climate. *Journal of Vocational Behaviour, 81*, 289-297.

- Victor, S. (2010). A farewell to arms: unearthing 'buried treasure' at Lovedale Public FET College: SAMA Eastern Cape 27th Conference and AGM. *South African Museums Association Bulletin*, 33, 86-91.
- Volodina, A., Nagy, G., & Köller, O. (2015). Success in the first phase of vocational career: The role of cognitive and scholastic abilities, personality factors and vocational interests. *Journal of Vocational Behaviour*, 91, 11-22.
- Wagner, C., Kawulich, B., & Garner, M. (2012). *Doing social research: a global context*. New York: McGraw-Hill Higher Education.
- Wanberg, C., Hough, L., & Song, Z. (2002). Predictive validity of a multidisciplinary model of reemployment success. *Journal of Applied Psychology*, 87, 1100-1120.
- Waters, L., Briscoe, J.P., Hall, D. T., & Wang, L. (2014). Protean career attitudes during unemployment and reemployment: A longitudinal perspective. *Journal of Vocational Behaviour*, 84, 405-419.
- Watts, A. G. (1996). Toward a policy for lifelong career development: A transatlantic perspective. *Career Development Quarterly*, 45(1), 41-53.
- Watts, A. (2006). *Career development learning and employability: Learning and employability series*. Retrieved September 03, 2015, from google scholar:https://www.heacademy.ac.uk/sites/default/files/id592_career_development_learning_and_employability.pdf.
- Weigl, M., Hornung, S., Parker, S.K., Petru, R., Glaser, J., & Angerer, P. (2010). Work engagement accumulation of task, social, personal resources: A three-wave structural equation model. *Journal of Vocational Behaviour*, 77(1), 140-153.
- Welman, C., Kruger, F., & Mitchell, B. (2005). *Research Methodology* (3rd ed.). Cape Town: Oxford University Press.
- Were, P. (2015). The link between demographic workforce diversity management, employee retention and productivity: A case of the civil society organisations in Homabay country, Kenya. *Journal of Culture, Society and Development*, 8, 11-19.
- William, N. (2006). *Social research methods*. London: SAGE.

- Wright, S.L., Jenkins-Guarnieri, M.A., & Murdock, J.L. (2013). Career development among first-year college students: college self-efficacy, student persistence, and academic success. *Journal of Career Development, 40*, 292-310.
- Yang, W., Guan, Y., Lai, X., She, Z., & Lockwood, A.J. (2015). Career adaptability and perceived over qualification: Testing a dual-path model among Chinese human resource management professionals. *Journal of Vocational Behaviour, 90*, 154-162.
- Yi, H., Zhang, L., Yao, Y., Wang, A., Ma, Y., Shi, Y., Chu, J., Loyalka, P., & Rozelle, S. (2015). Exploring the dropout rates and causes of dropout in upper-secondary technical and vocational education and training (TVET) schools in China. *International Journal of Educational Development, 42*, 115-123.
- Zacher, H. (2014a). Career adaptability predicts subjective career success above and beyond personality traits and core self-evaluations. *Journal of Vocational Behaviour, 84*, 21-30.
- Zacher, H. (2014b). Individual difference predictors of change in career adaptability over time. *Journal of Vocational Behaviour, 84*, 188-98.
- Zacher, H., & Griffin, B. (2015). Older workers' age as a moderator of the relationship between career adaptability and job satisfaction. *Work, Aging and Retirement, 1*(2), 227-236.
- Zafar, J. & Mat, N.B. (2012). Protean career attitude, competency development and career success: a mediating effect of perceived employability. *International Journal of Academic Research in Business and Social Science, 2*(4), 204-223.
- Zhang, L. (2011). Hardiness and the big five personality traits among Chinese university students. *Journal of Learning and Individual Differences, 21*(1) 109-113.
- Zhang, C., Hirschi, A., Herrmann, A., Wei, J., & Zhang, J. (2015). Self-directed career attitude as predictor of career and life satisfaction in Chinese employees: Calling as mediator and job insecurity as moderator. *Career Development International, 20*(7), 703-716.
- Zhou, W., Guan, Y., Xin, L., Mak, M.C.K., & Deng, Y. (2016). Career success criteria and locus of control as indicators of adaptive readiness in the career adaptation model. *Journal of Vocational Behaviour, 94*, 124-130

- Zideman, A. (1997). National programmes in technical and vocational education: Economic and education relationships. *Journal of Vocational Education and Training*, 49(3), 351-366.
- Zautra, A.J., Hall, J.S., & Murray, K.E. (2010). Resilience: A new definition of health for people and communities. In J.W. Reich, A.J. Zautra, & J.S. Hall (Eds.), *Handbook of adult resilience* (pp. 3–34). New York, NY: Guilford.